

MILITARY ILLUSTRATED

□ PAST & PRESENT □

No.2
August/September 1986
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Haythornthwaite & Fosten:

British Officers
in the Peninsula,
1807-14

Gallery:

Colin Campbell,
1854-57

Continuing:

The English Archer c.1300-1500
First Special Service Force 1942-44

Holder & McBride:

Roman Artillery

Hannon:

RM Commandos
in the Falklands,
1982

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Reviews



Our cover illustration shows a British Army officer's coat of the Napoleonic period, a service dress bicorne hat, a typical gorget and belt plate, a Fusilier officer's epaulette, and a battalion company officer's sword, with a kid glove of the period: see Philip Haythornthwaite's article beginning on p.7.

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EDITORIAL

Before introducing our first-time contributors in this issue, a few lines of thanks are in order.

First, sincere thanks to all of you who have been kind enough to write, and in some cases even to telephone, with kind messages of encouragement after seeing 'MI' No. 1. It simply is not possible for us to reply to you all in person; but we do appreciate your enthusiasm very much.

Secondly, a word of gratitude to our wonderful British nationalised industries and their dedicated work-force. In the week when a new publication mailed out its first issue to subscribers, what we really needed was a series of postal strikes and 'go-slows'. Thanks from the bottom of our hearts, chaps... As far as we can tell, the average delay was around eight days; our apologies to all of you who had a frustrating wait. (After the week-long dispute, we are told that there was a back-log of *ten million* items to clear, and first class letters naturally got priority.)

To pass on to more cheerful

matters — this issue sees the first contribution from **Philip Haythornthwaite**, the greatly respected author of more than 20 books and 450 articles on military history and costume. Philip, 34, is a Lancashire company director, whose prolific output ranges over many periods, from the English Civil War to late 19th century armies; he has written on many Napoleonic subjects for such publishers as Osprey and Blandford.

Angus McBride's splendid illustrations of ancient and medieval subjects have earned him a world-wide reputation; his original paintings are greatly sought after by collectors. Born in 1931, Angus is — astonishingly — entirely self-taught: which should encourage budding illustrators. Deeply read on many aspects of archaeology, history, mythology and anthropology, Angus has lived and worked in Cape Town, South Africa, for the past ten years.

His first plate for 'MI' illustrates the first of two articles by **Dr. Paul Holder**, a Manchester

University Ph.D. who currently works in the John Rylands University Library in that city. Paul has published studies of the Roman Army in Britain, and the Roman *auxilia* — the latter a subject he plans to pursue in a forthcoming major publication project.

Paul Hannon, a Swansea-born illustrator, writer and uniform collector, is mainly interested in the Great War, particularly the Imperial German Army and the Royal Naval Division; but a family connection has aroused his interest in the Royal Marines, and in the Falklands War in general. His article on the RM Commandos' contribution to Operation 'Corporate' is, we hope, the first of many for this magazine.

Notes on our other contributors to this issue will be found in 'MI' No. 1. Together, they represent some of the best talent now publishing on the ancient, medieval, Napoleonic, Victorian, Second World War and post-war periods. You will be meeting them again in these pages at regular intervals. [MI]



Philip Haythornthwaite



Angus McBride



Paul Holder



Paul Hannon

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IN OUR NEXT ISSUE:

Michael Barthorp and Pierre Turner on
The British Infantryman at Omdurman, 1898
Eduardo Carbral and Paul Hannon on
Argentine Army Commandos in the Falklands, 1982
John Mollo on
Uniforming 'Revolution'
'Gallery': Marcel Bigeard, Indo-China, 1952-54
Plus: the second instalment of our major article on
British Infantry Officers of the Peninsular War
and a preview of an exciting publishing breakthrough on
British Battle Insignia, 1914-18

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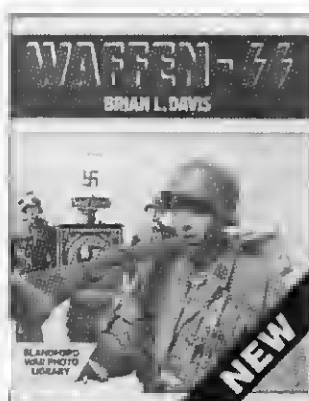
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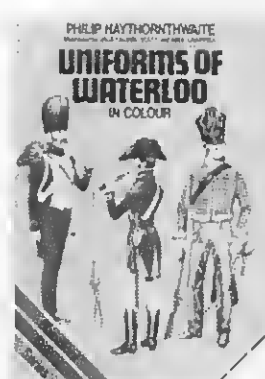
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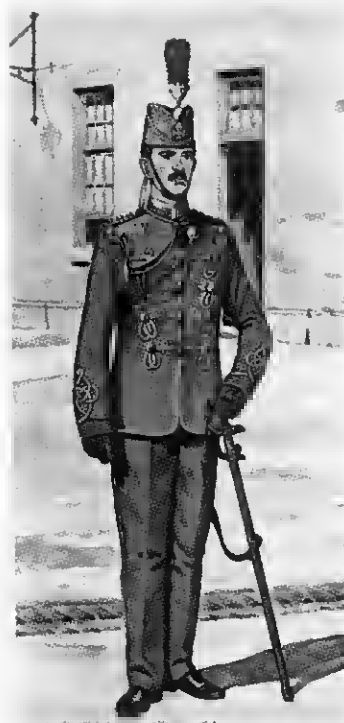
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REVIEWS



(Above) Plate by Angus McBride from *Men-at-Arms* 175, on the ancient Persians and Sassanians; and MAA 176, on Union uniforms of the American Civil War, by Ron Volstad. (Below) Bryan Fosten's Officer, Queen's Westminster Rifles, 1911, from the *Pompadour Gallery* postcards.



Osprey Men-at-Arms; usual format; £3.95 ea.; see Osprey advertisement in this issue for ordering details. Published July:

MAA 175 'Rome's Enemies (3): Parthians and Sassanid Persians' by Peter Wilcox, plates Angus McBride. Mr. Wilcox offers a chronology, and sections on social and army organisation, arms and armour, and major campaigns. Unsurprisingly, light on mono illustrations, but good drawings of rock carving costume sources. Fine plates; did our copy print a bit pale? Very attractive, and good value.

MAA 176 'Austrian Army of the Napoleonic Wars (1): Infantry' by Philip Haythornthwaite, plates Bryan Fosten. Highly skilled, long-awaited précis of a mass of material by two reliable MAA 'regulars'. Mostly uniform details, supported by tables, with some interesting introductory pages. Pre-1798, 1798 and 1806 line, light, Jäger, Freicorps, Grenz, Landwehr and volunteers are covered. Mono illustrations mainly from Ottenfeld, but some earlier. The plates, as luscious as boiled sweets, help take away the taste of Osprey's first, horrible attempt at this subject, long out of print: that one looked like a compost heap! Recommended.

MAA 177 'American Civil War Armies (2): Union Artillery, Cavalry and Infantry' by Philip Katcher, plates Ron Volstad. This exactly follows the style of MAA 170 on the Confederates: a catalogue treatment of uniform items, personal equipment and some weapons, described in detail and illustrated with a fine collection of photos, mainly period portraits. We liked the use of statistical analysis of old photos to suggest relative use of e.g. different headgear in the field. No narrative in this one — Mr. Katcher sticks to what he is best at, and what answers the primary need for this series. Mr. Volstad's plates are sharp, clear, and 'North American' in feeling. We particularly liked the interesting Zouaves and 'semit-Zouave'.

MAA 178 'Russia's War in Afghanistan' by David Isby, plates Ron Volstad. Packed with detail on the participants, course and nature of this ugly war, a book by an author who has been into Afghanistan with the *mujahideen*, and publishes photos of his friends to prove it. Unsentimental but fair about the resistance groups, who he lists in remarkable detail. Understandably light on Soviet photos, the book makes up for it in the plates, which include some surprises. Very strong on both units and uniforms of the Afghan government forces: some 'scoops' here, which should attract readers outside the usual range. Excellent plate subjects include named guerrillas; Mr. Volstad is so good at figures, perhaps Osprey should let him off helicopters? Good value. JS

'Nazi Para-Military Organizations and Their Badges' by Ray Cowdery, with badges from the collection of George C. Robinson; available A. A. Johnston, Pitney, Langport, Somerset TA10 9AF; 142pp; 70 + illus. plus 31 col. pp; index; biblio; £16.95 hardbound, £14.50 softbound.

As an avid collector of reference, I appraise new publications from the viewpoint: 'Is this information new to me? Is it from reliable original sources? Or a rehash of published material?' This book falls somewhere between these criteria.

The 'new' material consists of 31 plates of colour photos of rally, commemorative, etc. badges. Well photographed, in organisational groupings, the 729 badges lack page headings or captions, leaving readers to sort out what they are looking at. (As an example of how this sort of information should be conveyed, see Ron Mannion's *Collector's Guide* No. 1 and No. 2, *Tinnies of the Third Reich*, from the 'Foxhole', International Auction House & Publishers, PO Box 12214, Kansas City, Kansas 66112, USA.)

The bulk of the present book is reprinted from the wartime *Hitler's Second Army* by Alfred Vagts. Modern readers will find this of some interest; but 40 years' hindsight suggests that it was perhaps not the most reliable choice of basis for the work under review.

Among other contents are short sections on Nazi symbols; the Gau system; the RZM (with a listing of RZM authorised manufacturers, quoted, with permission, from *Handbook of RZM Codes* by C. R. Davis, Runic Press, Houston, Texas); on propaganda; and just four and a half pages, and three photos, on the actual subject of Nazi badges. To summarise, some of the inclusions seem odd when compared with some of the omissions.

It is only fair to conclude by saying that this is a well-produced, adequately-designed book of genuine interest, but to be treated with caution. The colour plates are its saving grace; it is up to buyers to decide whether these are sufficiently useful to them to justify the price of the book. BLD

'Great Uncle Fred's War: An Illustrated Diary 1917-20' ed. by Alan Pryor & Jenifer K. Woods; Pryor Publications, 75 Dargate Rd., Whitstable, Kent CT5 3AE; 97 pp; maps & 88 illus.; index; biblio; £7.95

Fred Thomas, called up in 1917, was a 34-year-old builder, and was graded 'C1' (fit only for home garrisons); nevertheless he was soon posted to the Middle East with the Royal Engineers. Despite regulations, Fred kept a diary; which forms the basis of a delightful book, full of information on life in the ranks. He recorded his experience unselfconsciously, both the pleasurable and the painful. As a mature man he was, at

times, critical of the Army's poor 'man management' and of some officers' privileges; but he could also take pleasure in recording the simple joys of life. A good selection of photos, maps, documents, and biographical material enhance a book highly recommended to Great War enthusiasts. MC

'Aircraft versus Aircraft: The Illustrated Story of Fighter Pilot Combat Since 1914' by Norman Franks; Bantam Press; 192pp; 150+ illus., incl. 20 col.; index; biblio; £11.95

As a once-avid airwar reader, now years out of touch, I thought I would make a fair reviewer for a book apparently aimed at the informed but not expert general reader. This book sets out to explain the changing tactics of fighter combat, as they have developed from the changing characteristics of the aircraft. Some fairly dreadful 'coffee table' or 'part-work rebind' books have purported to do more or less the same; this book is head and shoulders above them. It is packed with hard facts and figures, clearly explained in context, and illuminated by many first-hand accounts of specific actions. Some of the mono photos are rather tired stock library shots, hardly worth their space; but the colour art is first class, as one would expect from Peter Castle and Terry Hadler. It is imaginatively designed, and goes a long way towards the notoriously difficult feat of depicting complex three-dimensional manoeuvres clearly and attractively. The text taught me a lot I didn't know, in a straightforward style mercifully free of shoulder-rolling purple prose and of self-conscious jargon alike. Good value; recommended. MCW

CARDS and PRINTS

Volunteer Regiments of London (Set 1); Military Units of Essex (Set 2); six colour postcards per set; £1.95 incl. p & p; Pompadour Gallery, Fairview Parade, Mawney Rd., Romford, Essex RM7 7HH.

The first two of six sets scheduled this year, all painted by the amazingly prolific Bryan Fosten. Single figures are shown in full dress, many against pleasing period backgrounds. The artwork is attractive, the quality generally high; though one of our review set seemed slightly out of register? A brief caption details each unit's service and lincal identity. These seem to us highly collectable, and we look forward to future sets. Cards include (Set 1): Officer, HAC Inf., 1914; Sgt., 2nd CLY, 1909; Pte., 1st London Regt., 1910; Pte., 5th London Regt. (Rifles), 1908; Sgt. Maj., 14th London Regt. (London Scottish), 1909; Officer, 16th London Regt. (QWR), 1911. (Set 2): Officer, Essex Yry., 1912; Driver, Essex RHA, 1913; Pte., 1st Essex Regt., 1905; Sgt., 4th Essex Regt., 1913; Cpl., E. Anglia RFA, 1909; Officer, Essex RE, 1912. [M]

The British Infantry Officer of the Peninsular War (1)

PHILIP J. HAYTHORNTHWAITE

‘Provided we brought our men into the field well appointed, and with sixty rounds of good ammunition each, he [Wellington] never looked to see whether their trousers were black, blue or grey . . . we might be rigged out in all the colours of the rainbow if we fancied . . . scarcely any two officers were dressed alike. Some with grey braided coats, others with brown, some again liked blue; while many from choice, or perhaps necessity, stuck to the “old red rag”’.¹

These comments, by an officer of the 88th Regiment, are among the best-known quotations arising from the Peninsular War, 1807–14. Yet while they are true to a large extent, they tend to conceal the fact that the British infantry officer of the period did maintain a reasonably ‘uniform’ appearance, at least until the exigencies of campaign compelled the adoption of whatever garments were available. This two-part study, covering the costume of the regimental officer, will endeavour to describe both the ‘regulation’ uniform and its ‘campaign’ adaptations, as described by many of the participants. (Not included in this present article are the Rifle corps, the Light Infantry regiments or the Highlanders, whose uniforms were sufficiently different that they cannot really be classed with the conventional ‘English’ Line regiments.)

Unlike the uniforms of later decades, those of the early 1800s were not regulated in their smaller details by published, official ‘dress regulations’; thus, while certain features were standard, there was much scope for regimental variations. Certain of these — e.g. the design of badges and insignia — were an accepted channel for the creation of a regimental identity. Others, more radical, embodied regimental traditions, or the whims of com-

manding officers. Providing that a regiment’s officers appeared dressed in a uniform manner, there seems to have been little practical check upon the scope of these.

THE COAT

The infantry officer’s coat was a standard garment, introduced in 1796 when the open lapels of the previous style were closed to the waist, and the upright collar was

made compulsory. Though its colouring was similar, the officer’s coat was a totally different garment from that worn by the rank and file, being double-breasted and having long tails. Unlike the other ranks, whose button arrangement in pairs or evenly spaced depended upon regimental regulations, all officers almost invariably wore buttons in pairs. The body of the coat was of scarlet cloth, usually described as of ‘superfine’ quality, reasonably hard-wearing but much finer than the coarse, almost brick-red material worn by the rank and file.

Its lining was usually of white fabric, often silk or linen, and often partly quilted, though the tails of the skirts were usually lined in a harder-wearing white cloth. The edges of these skirt tails were ornamented with ‘turn-backs’, by this date purely

decorative white cloth ornaments stitched permanently to the skirts. These were further ornamented with embroidered devices which ranged from simple metallic wire knots on cloth patches to regimental badges of great intricacy incorporating sequins and spangles. Regiments with buff facings usually wore buff, rather than white skirt lining and turn-backs, though in some cases the buff was almost white.

The upright collar and the cuffs — the latter stitched down to the sleeve, and purely decorative — were in the regimental facing colour; each cuff was ornamented with four buttons, and the collar with one or two on each side. The buttons — gilt or silver, according to the regimental colour — were set either upon a doubled bar or ‘loop’ of similarly-coloured metallic lace, or upon a dummy buttonhole embroidered in thread of the same colour as the cloth upon which it was set.

Whether or not a regiment bore lace depended upon regimental practice. The 1802 clothing regulations² stated that ‘. . . if the Colonel thinks proper either Gold or Silver Embroidered or Laced Button Holes are permitted’. Even so, the practice was by no means rigidly defined: ‘unlaced’ regiments might wear lace for dress occasions, and ‘laced’ regiments might use plain coats for service.

The double-breasted front of the coat was lined in the facing colour. The garment could be worn in three ways: with both lapels folded back, closed down the front with



¹Superior numerals in the body of this article refer to the source notes at the end.

An interesting variation on the normal method of wearing the lapels of the coatee. George Webb Derezny lost his right arm in the Peninsula as a lieutenant in the 82nd (Prince of Wales' Volunteers) Regiment. His coatee is fastened to the left in 'female' style, presumably so that he could button it more easily with his left hand. Note the belt plate of the 82nd Foot, with the regimental number below the Prince of Wales' feathers. (Print by C. Turner after I. G. Strutt)

HEADADDRESS and SMALLCLOTHES

Headdress consisted of the ubiquitous flat-sided bicorn, worn almost invariably 'fore and aft'. Made of black felt and bound with black tape, the hat was asymmetrical: its 'front' or right hand side was slightly smaller than the 'back' or left. Its crown was constructed to allow the hat to be folded flat. On the right side was a loop of regimental lace and a regimental button, running from the edge to secure a black cockade made either of ribbon or starched black fabric in a ribbed fan shape. From behind the cockade, secured in a leather tube, rose a feather plume which for 'battalion' companies was in the national colouring of white over red. Though regimental practice varied, the plume was usually quite large for dress occasions, while smaller ones were used for active service. At either end of the hat was a tasselled ornament of gold wire and crimson silk.

Beneath the coat was worn a white shirt, the frilled cuffs sometimes visible at the wrist, and the frilled breast allowed to show between the coat lapels when they were not fastened completely



A battalion company officer of the 3rd Foot (Buff), showing a uniform typical of that worn by most officers at least until the closing year of the Peninsular War. (Print from the British Military Library series, 1799)

Right:

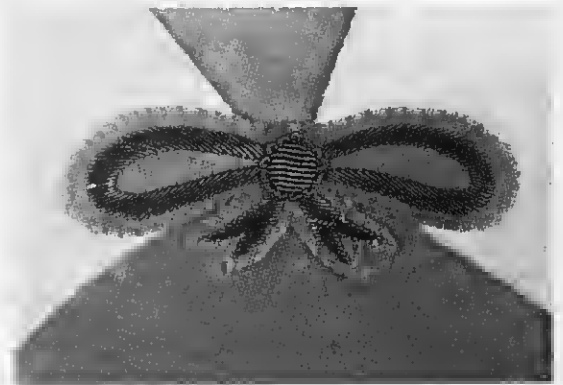
Rear view of the officer's coatee illustrated in colour on our cover and p. 12. Note details of red 'twist' thread on the pocket flaps and across the waist, typical of unlaced regiments; and placing of rear buttons.

Below right:

Detail of the turnback device on the coatee, in the typical style of an embroidered bow — here in silver wire on a scarlet patch.

Below:

More elaborate turnback device, as worn by regiments whose insignia included the Garter star: gold wire embroidery with tinsel and sequin details.



hooks and eyes (or left open for evening wear), to produce a facing-coloured plastron covering the entire breast; with the lapels fastened over completely, to conceal the facing colour (as prescribed in some regimental orders: 'The jacket to be worn constantly buttoned across from top to bottom'); or — the most popular style — with only the upper edges of the lapels turned back, revealing two

facing-coloured triangles on the upper breast. For some 'laced' regiments the lapels might have loops of lace upon the facing-coloured side, and occasionally upon the scarlet side also. The pockets of the coat were placed in the rear skirts, accessible by concealed vertical slits in the skirts; dummy horizontal pocket flaps, usually with four buttons, were situated just below waist level.

across. A small line of the collar would also be visible above the stock: this was a black neck cloth, varying between an uncomfortable strip of leather or stiff canvas, buckled at the rear, and a black neckerchief, easier to wear and capable of being tied at the throat in elaborate bows by officers of dandified tastes. The white kerseymer waistcoat was completely concealed by the coat.

Legwear consisted of white breeches, usually of fabric but sometimes of buckskin for dress occasions, worn with white stockings and knee boots. The latter were of 'Hessian' design, with lace or tape trimming to the upper edge, often with a tassel; or of the riding-boot variety, with or without buff leather tops. More varied legwear was worn on campaign.

RANK DISTINCTIONS

Officer's rank was indicated by three features, two of which were common to all: the gorget, and the sash. The gorget, a gilded crescent suspended at the throat by rosettes and ribbons of the facing colour (or red, for regiments with black facings) from the collar, epaulette, or upper breast buttons, was apparently worn during our period only as a 'duty' item — i.e. when the wearer was actually on duty or parade; it was probably always omitted when on campaign. Its usual engraved decoration consisted of a crowned royal cypher surrounded by laurel, but some bore additional regimental badges. The practice of silver-laced regiments wearing silver gorgets (though confirmed by the 1802 regulations, in contradiction of the 1796 orders specifying gilt for all) was probably defunct by this date. The sash, of crimson silk net, was worn around the waist, over the coat, and knotted at the left hip, its hanging ends finished with long tassels.

The third rank distinction was in the form of epaulettes, fixed to the shoulders of the coat by laces which passed through holes in the cloth and tied on the underside. The most usual pattern consisted of a stiffened strap covered with metallic lace — either a single wide strip, or several narrow ones — with a padded crescent at the point of the shoulder from which hung

metallic bullions or fringes. A button was situated at the end of the strap, and usually some type of embroidered wire or applied metal badge was set on the shoulder end. Until 1810, however, rank markings on epaulettes were not regulated but were left within the province of individual regimental practice. Some regiments apparently introduced rank insignia before its official authorisation. The only definitive regulation in force before 1810 was that all officers were to wear an epaulette on the right shoulder, except for officers of flank companies, and field officers, who were to wear two. Excluding regimental practice there were no differences of design between the epaulettes of various ranks; but from March 1809 adjutants were ordered to wear a laced strap — i.e. a fringeless *contre-epaulette* — on the left shoulder as well.

In February 1810 epaulettes were ordered to be distinguished by the addition of rank badges in the sequence listed in the table below.

No design was specified for the star, though the Garter Star seems to have been most popular, with some Scottish regiments later adopting the Thistle Star; all were in metals of the contrasting colour to that of the strap.

From December 1811 (in an order later clarified in April 1812) it was instructed that in future all ranks' epaulettes were to be indistinguishable save for the badges, the epaulettes of subalterns acquiring bullion fringes like those of higher ranks. Given the usual delays in the adoption of new regulations, it is doubtful whether the thin-fringed epaulettes ever saw extensive — if, indeed, any — use.

From 1809 officers of brevet field rank, even if only captains, were to wear two epaulettes.

Flank companies

The one grenadier and one light company within each battalion confirmed their status as the regimental élite by differences in uniform. Most notable were the 'wings' on the coat: projections at the shoulders covered with either metallic lace, interlocking chain or metallic scales, usually on a scarlet cloth backing. This traditional distinction exhibited many regimental variations, usually including the authorised grenade or

bugle badge in the centre of the wing or strap. Worn on both shoulders by all ranks, the wings replaced epaulettes for all but field officers, who were instructed in 1809 to wear wings below their epaulettes — an order which probably confirmed or re-instituted a practice already widespread.

In full dress, grenadier company officers were authorised to wear a bearskin cap. It is described in the 1802 regulations as follows: 'Black

Below:

Battalion company officer's hat. This surviving original example, one of a pair which seem to have belonged to the same man, demonstrates what is apparently a regimental distinction between full dress and hats worn for other duties, this full dress example having a large feather plume (in the usual white-over-red) and bullion and crimson silk tassels at the extremities.

Bottom:

Service dress version of the battalion company officer's hat, with a much smaller plume. Made of black felt, these hats are bound with dark blue (now) ribbed tape; the cockade is pleated black ribbon, and the button and lace loop are gold.



Col.	—	Crown and star	—	Bullion fringe
Lt. Col.	—	Crown	—	Bullion fringe
Major	—	Star	—	Bullion fringe
Capt.	—	No badge	—	Bullion fringe
Lt.	—	No badge	—	Thin fringe
Ensign	—	No badge	—	Thin fringe

Bearskin. On the Front, The King's Crest in brass on a Black Ground with the Motto "Nec Aspera Terrent". A Grenade on the Back part, with the number of the Regiment on it. The Royal Regiments and the six old Corps are to have the Crest and Grenade . . . The Height of the Cap (without the Bear Skin which reaches beyond the Top) to be Twelve Inches . . ., with ornaments in gilt for officers. The cap had a white feather. It was hardly ever worn on service, if at all; instead, officers were instructed 'to wear Hats . . . with a Gilt or Silver Grenade instead of button and with a White Feather' [plume]. Grenades also featured frequently in their turnback devices.

Similar caps were worn by the three 'Fuzileer' — Fusilier — regiments, of which two (the 7th and 23rd) served in the Peninsula. All were dressed as grenadiers, but with fur caps . . . made in the same manner . . . but not so high, and not to have a Grenade on the Back Part of the Cap. These Regiments are also to wear the Felt Cap on Common Parades . . . Officers were supposed to wear white-over-red plumes, but it appears that all-white was the colour usually adopted. Although the Fusilier cap may have been worn in the early part of the Peninsular War, it is unlikely that it was retained very long. Another feature of officers of these regiments was metal-scaled epaulette straps.

Few, if any, of the light companies retained the long-tailed coat; short-tailed jackets were universal, being theoretically more suitable for skirmishing duties, although in other respects they were styled similarly to the coat. As the dandies of the army, light company officers affected light cavalry styles

and, most noticeably, wore 'stovepipe' shakos instead of hats. The shako resembled that worn by the rank and file, but sometimes displayed cords, large green feather plumes above circular cockades, usually bugle badges on the front, and frequently, square-cut peaks. Many regimental varieties existed, particularly in the early years of the war.

Though breeches and Hessian boots were common, stockings and low gaiters worn over low boots were also seen. Light company officers usually wore crimson sashes finished with tasselled cords worn looped around the side, rather than the knotted variety with tasselled ends. The introduction of the 'corded' variety was not simultaneous in all regiments, however; the light company of the 4th Foot appear to have adopted theirs only in 1809, and other regiments seem to have retained the 'Line' pattern for years afterwards.

THE CAMPAIGN WARDROBE

Each officer provided his own uniform, at his own expense; the magnificence of a regiment's costume might therefore persuade an impecunious subaltern to choose another corps, for memoirs

and diaries of the day reveal that many were acutely conscious of the potentially enormous cost of equipping themselves for war or peace alike. A measure of the straits to which some officers were reduced is the fact that some tailors offered to buy second hand lace or to part-exchange insignia from officers moving to new regiments, or those effected by new regulations. The wealthy, however, could afford to lavish great expense upon their uniforms: Capt. Hobkirk of the 43rd, for instance, was reputed to have spent almost £1,000 on his uniform.

When George Elers joined the 12th Foot he noted that 'My outfit cost me £300 . . . No officer, with the exception of Colonel Aston, had such a kit. I had six regimental jackets, besides dress-coats, greatcoat, shirts about twelve dozen, and everything in the same proportion'. Even so, he soon had to make a major alteration when 'I was immediately appointed to the light infantry company. I was obliged to send up to London for a sabre and wings instead of epaulettes, and lots of narrow gold lace for my scarlet waistcoat . . .' Aston of the 12th was an exception, though: when going on service, 'His stock of clothes, etc., that he bought in England was immense; I have heard from fifty to one hundred pairs of boots . . . He lent me a loose jacket to wear. I said I was afraid I should deprive him of it, as there were no laundresses on board ship. He said: "Never mind; I have two hundred more"'.⁴

More usual were the financial difficulties from which Ensign William Bell of the 89th suffered in 1808: 'I am very sorry to say that owing to my having to procure two Regimental coats instead of one (as I had thought of) and those two very rich ones my money will run me short'; thus he could afford no greatcoat, 'but any of the officers would lend me theirs'.⁵ So expensive was the kit, and so impecunious many of the officers, that it was usual on

campaign for an officer to will away his effects to his friends, or for the clothing of a deceased officer to be auctioned among his comrades. Probably very common also was the purchase of uniforms cut-price, as a seasoned campaigner, George Simmons, advised his brother to do when he was about to join the 34th in the Peninsula, initially as a volunteer and subsequently to be commissioned.

The total cost for the entire kit on this 'shoestring' basis was calculated by Simmons at the remarkably low figure of £23 9s 0d — though even this sum was not inconsiderable when set against an ensign's daily pay of 5s 3d, out of which he had to buy his food. Although very many officers were commissioned without purchase, an ensigncy in a Line regiment cost £400; so from these figures alone it is obvious that an officer without private income could be in very straitened circumstances indeed unless he followed a course of extreme prudence. In such circumstances, Simmons's advice of 1811 is sound:

'You must procure Joseph a 'superfine red jacket. I was thinking of letting you get him a regimental 34th coat, but I am afraid it would be too expensive, although it would in the end be a great saving, as cloth is extremely dear in Lisbon; however, do as you can. The collar and cuffs, white Kerseymere, a white Kerseymere waistcoat, two pairs of strong grey trousers, made wide like sailors' trousers, three pairs of strong shoes (one pair short), strong leather gaiters. I have always found them the most preferable, as they keep your shoes from slipping off, and also prevent sand and gravel getting into your stockings. Three pairs of socks. If you could purchase a sword (not a sabre) similar to the officers' swords you may have observed on parade, and you can get it cheap, buy it; its being new is of no consequence. An old sash also you might procure cheap; it would answer as well as any



An officer's boot of the Peninsular War era; note the square toe and arched instep.

other. However, these things are now and then to be met with here.

'He must have a haversack made of dark fustian (not too large), a claspknife, fork and spoon; also a tin mug, which will serve him for wine, soup, and tea. You may also buy some pasteboard and make a cocked hat, or at least have it cut out in order that he can put it into his baggage, with some oil-silk, some broad black ribbon for a cockade, and some broad stuff for a binding. The tailor of the regiment will form it; a gold bullion for each end. His baggage must be as small as possible, as the convenience of carriage is very scarce — three shirts will be enough. He must also have a black leather stock with a buckle, a common rough greatcoat; let it be big enough (any colour, it is of no consequence). Could you get three or four dozen buttons like the 34th? They would be very useful afterwards. He must bring two or three toothbrushes and three little towels, or any other little thing that may have slipped my memory which may strike you'.⁶

Other 'orders of dress' existed, but few would have been of great relevance in the Peninsular War, as opportunities for wearing 'court dress' were few, and presentable evening wear for parties and dinners could be made by utilising the ordinary coat, replacing service dress trousers with breeches and stockings. It had been common in many regiments to have a different uniform for morning parades, usually depending entirely upon regimental orders; but few of these can have extended to use on active service — though the practice of wearing dark blue breeches, prevalent in the early 1800s, may have lasted until the Peninsular War.

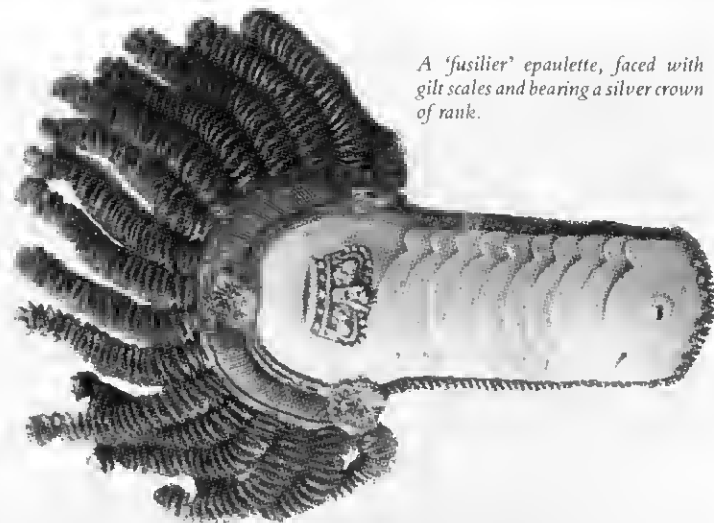
Undress frock coats, however, may well have been used in the early stages of the Peninsular War. Termed 'Great Coats' in the 1802 regulations, they appear to have been more of the 'frock' style than a true greatcoat:

... of dark Blue Cloth, double breasted, with two Rows of Buttons and a falling Collar of Scarlet Cloth. Blue Cuff with Slits and to open with 4 Small Buttons. The Pockets to open at the Plait. Buttons similar to their respective Uniforms or Regimentals'. The extent to which such coats were used on campaign is uncertain, and was probably limited to the earlier years. Long braided coats, sometimes with fur collars and known, confusingly, as 'pelisses' or 'pelisse coats', were popular undress wear for officers in the later stages of the Napoleonic Wars.

Few patterns of forage cap seem to have been regulated even at regimental level. One officer ordered a cap from his tailor with no more precise specifications than that it should be 'neat but not gaudy';⁷ and this lack of standardisation seems to have been usual. Examples exist with peaks (one type having a baggy cloth crown, like an Australian cricket cap); others are low, 'pork pie' caps similar to those worn by the rank and file. Campaign sketches show the use in the Peninsula of peaked caps with wide crowns, apparently covered in black oilskin, comparable to the contemporary styles already favoured by Prussian and other German officers.

The greatcoat was equally varied, with grey probably the commonest colour. Single-, or, more usually, double-breasted, it was often very voluminous, with a shoulder-length cape. Though the sword and sash could be worn over it, the greatcoat was sufficiently large to conceal even a sabre. The greatcoat usually had deep cuffs and large pockets — Gen. Skerret was in the habit of carrying a bottle of sherry in each pocket!

Cloaks were popular with some, as William Warre noted: '... as we can carry but little weight ... a cloak lined with warm but light stuff is much better [than a greatcoat] as we oftener want a cloak to sleep in than to keep out the rain, and I have latterly practiced riding in an oil



A 'fusilier' epaulette, faced with gilt scales and bearing a silver crown of rank.

skin cape over my great coat ... my cloth coat gets so soon wet, is so heavy when filled with water, and takes so many days drying, that I never carry it with me ...'⁸

A new set of regulations was introduced in 1812, which radically altered the appearance of the infantry officer. Instead of the tailed coat, the new uniform included a short-tailed, double-breasted jacket of the style already worn by light infantry. The bicorne was abandoned completely (except as a *chapeau bras* for evening and court wear) by the infantry, and was replaced by the false-fronted shako of so-called 'Belgic' or 'Waterloo' pattern, whose design probably evolved from the contemporary Portuguese *barretina* cap.

The new uniform probably saw only limited service in the Peninsula, though evidence is inconclusive. Lt. Maguire led the 'forlorn hope' of the 4th Foot at the storming of San Sebastian wearing a white-plumed bicorne 'to make himself conspicuous and recognisable', which might imply that his brother officers wore the shako; but the distinction may only refer to the plume. (Whatever the case, it proved too conspicuous, for Maguire was killed in the breach.) It seems probable that only newly arrived or re-clothed regiments would have worn the 1812 style; and even officers of re-clothed units, buying their uniforms personally, probably retained the old style until the end of the war or until old uniforms wore out.

The 1812 regulations did officially authorise two features which were already common: the grey greatcoat with a standing collar and shoulder cape; and long, grey overall trousers — though other colours, e.g. blue or white, were not unknown. Trousers could be regulated by regimental orders, e.g. 'grey overalls, patent leather at the bottom, three inches deep in front and five inches at the rear'.⁹

[M]

To be continued: Part 2 will illustrate and describe further uniform variations on campaign; weapons; belts and belt plates; and personal campaigning equipment. It will also list the regiments which served in the Peninsula with details of facings, officers' lace, and known regimental peculiarities.

Source notes:

- (1) *Adventures with the Connaught Rangers 1804-14*, Lt. William Grattan (London, 1847)
- (2) *Infantry Clothing Regulations, 1802*, W. Y. Carmichael; *Journal of the Society for Army Historical Research* Vol. XIX (London, 1940)
- (3) *Standing Orders, 85th Regt.*, Lt.-Col. Thornton (1813)
- (4) *Memoirs of George Elers*, ed. Lord Monson & G. Leveson Gower (London, 1903)
- (5) *Letters of William Bell 1808-10*, ed. Brig. B. W. Webb-Carter, *JSAHR* Vol. XLVIII (London, 1970)
- (6) *A British Rifle Man: Journals & Correspondence of Major George Simmons during the Peninsular War*, ed. Col. W. Verner (London, 1899)
- (7) *Letters written by Lieut.-General Dymally*, ed. Col. F. A. Whinyates (London, 1896)
- (8) *William Warre: Letters from the Peninsula 1808-12*, ed. Rev. E. Warre (London, 1909)
- (9) *Standing Orders, 85th Regt.*, as above.

(A further list of sources will be included in Part 2 of this article.)

Left:
Company officer, 4th
(King's Own, Lancaster)
Regt., 1808-09

This uniform is typical of a battalion company subaltern of a 'laced' regiment, the lapels being fastened across to conceal the facing colour. The gilt belt plate was rectangular with clipped corners, bearing a silver device of a lion and 'IV' within a crowned strap inscribed 'KING'S OWN REGIMENT'. The 4th Foot served at Coruña, Badajoz, Salamanca, Vittoria, St. Sebastian and the Nive.



Right:
Company officer, 45th
(Nottinghamshire) Regt.,
1811

This shows the rear of the ordinary uniform, with a typical arrangement of silver loops on pockets and skirts, and typical figure-of-eight turnback device; and campaign overalls. The 45th Foot served at Roleia, Vimeira, Talavera, Busaco, Fuentes d'Oñoro, Ciudad Rodrigo, Badajoz, Salamanca, Vittoria, the Pyrenees, Nivelle, Orthes and Toulouse. Their oval silver belt plate bore '45' within a crowned oval.



Photographs:
Right, and far right:

Typical example of an officer's coat of an unlaced regiment with yellow facings (here, much faded). This coat is tentatively attributed to the Worcester Militia, but is poorly documented. (It may conceivably have actually seen service in the Peninsula, since that unit provided a draft for a Provisional Battalion.) We show it here with the lapels buttoned back to form a facing-colour plastron; and in one of several configurations which showed facing-colour triangles at the top of the breast.



Below:
Grenadier company officer, 4th (King's Own, Lancaster) Regt., c. 1808

Company distinctions are the white feather plume and grenade badge on the hat, and the 1803 pattern 'flank company' sabre suspended on slings from the belt. The frock coat (described officially as a greatcoat at this date) was generally much less capacious than the true, caped greatcoat; and is depicted as being worn as an undress uniform, instead of, rather than over, the scarlet coatee.

Right:
 A selection of epanettes of the period. Left: silver lace, bearing a rank star and the bugle of the light infantry. Top: Light infantry company wing covered with gilt chain, with a silver bugle on a gilt dome in the centre. Right: plain gold lace.



Right:
Company officer, 61st (South Gloucestershire) Regt., 1811-12

The bicorne hat covered with water-proof oilskin, and the sturdy gaiters of the type worn by the rank and file, are indicative of campaign dress. The coatee is typical for an unlaced regiment, with the buff facing colour worn also on the turnbacks. Note the distinctive regimental buckle and slider in place of the usual belt plate. The 61st served at Talavera, Salamanca, the Pyrenees, Nivelle, the Nive, Orthes and Toulouse.



The English Archer c. 1300–1500 (2)

CLIVE BARTLETT and GERRY EMBLETON

Before the excavation of the *Mary Rose*, the Tudor warship which sank in 1545, the only surviving examples of medieval archery equipment were a handful of 'medieval' bows (mostly of dubious authenticity), and a single arrow, found in Westminster Abbey in 1878 and now in the Undercroft Museum. Now, thanks to the superb work done by Dr Margaret Rule and her team, information can be gleaned from 138 bows and 2,500 arrows recovered from the *Mary Rose*. Of primary importance is the way in which the archery equipment from the wreck concurs with the earlier evidence. There is no doubt that it represents not just examples of early Tudor ordnance, but the English war bow and arrow of the medieval period.

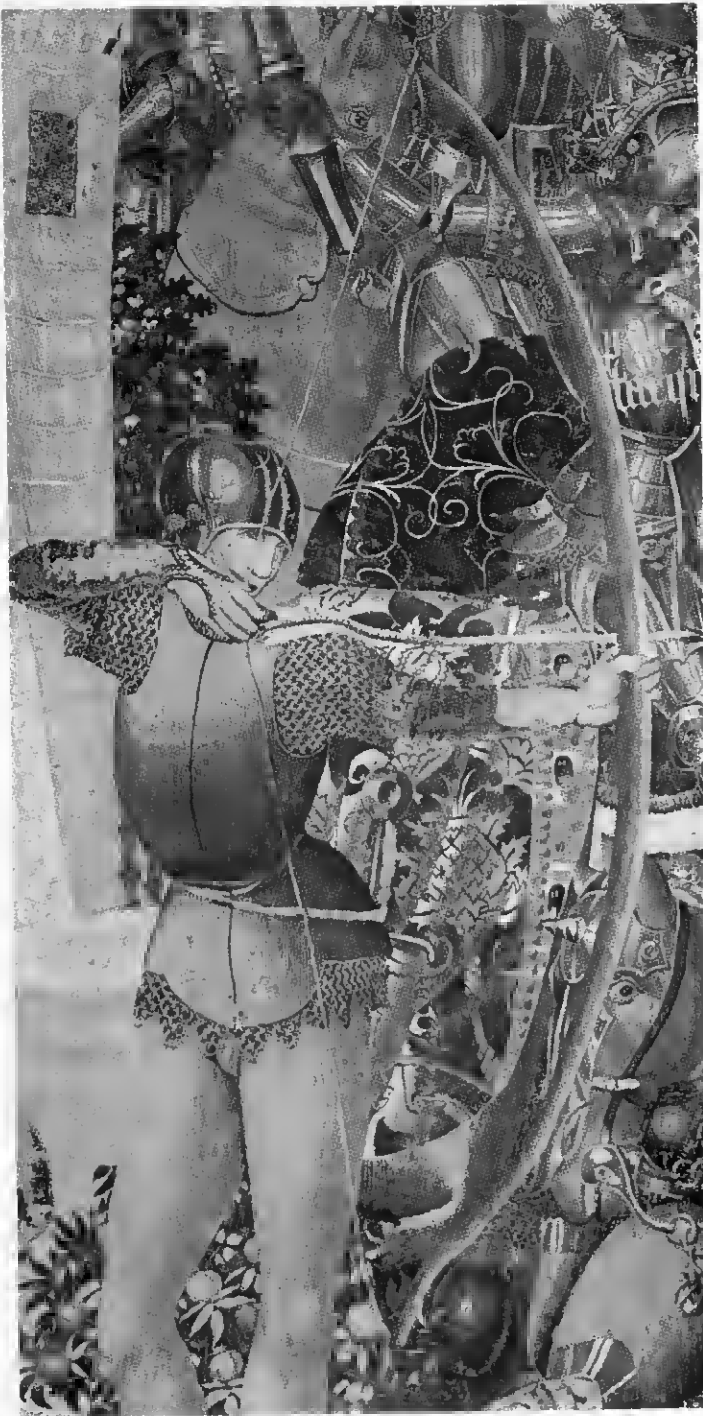
comes from work done during bow-making and shooting sessions by Richard and his 'pupils'.

THE BOW

There are two basic misconceptions about the English longbow. Firstly, it was not invented by the English; and secondly, it was not called a longbow — at least during its age of greatness. To deal with the second point first; the earliest reference I have seen to the term is in a letter from Margaret Paston to her husband, dated 1449, where she asks him to '... gete som cross bowis . . . and quarrels, for zovr hwsis her ben so low that ther may non man schet out with no long bowe . . .'. An entry in Harleian 433 dated 26 June 1483 records that '... Thomas Tunstalle hathe a warraunt directed to the constable of the Toure of London for the delivere unto him of . . . ten crosbowes of stele, threescore longbowes, an hundrethe sheff of Arrowes . . .'. From these and other references it appears that 'longbow', written as either one or two words, was used whenever there was a conjunction with crossbows, to differentiate between the

two; otherwise, the references are always to 'bowes'. It is not until the latter part of the 16th century that the word appears in its own right; Smythe uses it (though not always) as 'Long bowe' in his *Certain Discourses*.

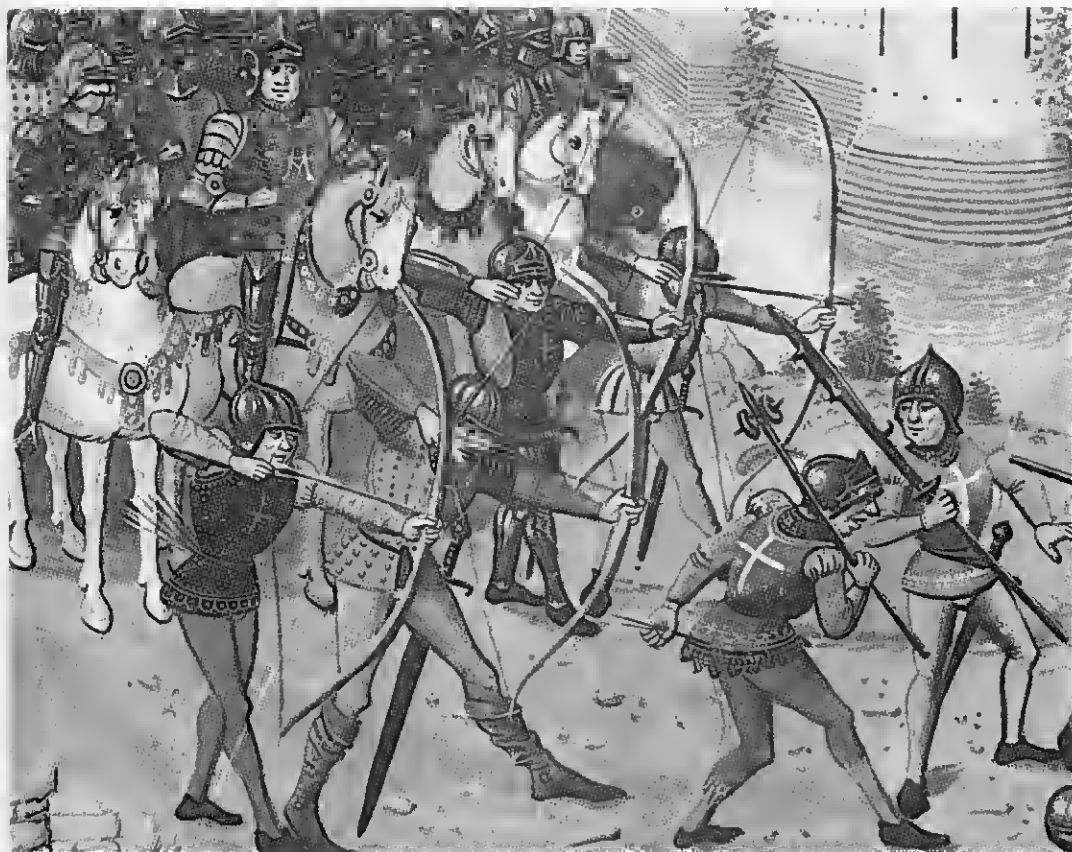
To return to the first point: we are concerned here with just one of the numerous and varied types of bow, many of sophisticated technical design, in use throughout the medieval period. Its parentage stretched back through Saxon times² to prehistory; and it had evolved as the English war bow because it was a design which offered a relatively cheap and simple, though well-made weapon capable of throwing a man- or animal-stopping projectile over a good distance. While it was found elsewhere in Europe, especially in France and the Low Countries, the English so adopted, perfected and developed this design that it was, nevertheless, known as the 'English' bow. A statute of 1465³ states that those 'betwixt sixty and sixteen in age, shall have an English bow of his own length and one fistmele at the least between the nyckes . . .'. The Emperor Maximilian's



This important illustration, dating from some 70 years before the *Mary Rose* went down, clearly shows a bow and arrow identical to those recovered from the ship. Notice the horn nocks on the bow, and the absence of any handle binding. Note also the shooting glove on the right hand — this is the only known contemporary illustration of an item often mentioned in written references. The 'bracer' on the left forearm is a good representation of those used throughout the medieval period. (Detail from the 'History of Tarquin', a 15th-century Flemish tapestry now called 'The Black Tapestry of Zainora' and housed in the Cathedral Treasury, Zamora, Spain: photo, Wim Sivaan)

Not all the questions have been, or will be answered by these finds, however. The author is therefore indebted, and grateful, to have belonged to the small research group formed by Richard Galloway, the arms and armour historian and researcher, and one of the last true 'bowyers' in the real sense of that word. Amongst this group one mighty archer in particular — the late John Noonan — showed what could have been achieved by the English medieval bowman. Much of the practical information in this article

¹Superior numerals in this article refer to the source notes at the end.



directives to his artists for his book of *Triumphs* in 1512 instructs them that 'the people of Calicut [India] be shown with English bows and arrows'.

The bowstaves from which these bows were made were always of a single piece of timber, utilising the heartwood on the 'belly' and the sapwood on the 'back' (so called to define the direction of bend, i.e. the same as the human body). The timber of choice was yew, though other woods were used. A statute of 1542¹ enacts that every bowyer living 'without' the City of London '... for one bow of yew shall make four of elm, wych, hazel, ash or other wood apt for the same ...'; and an entry on a supply list for Edward IV's expedition to France in 1475⁵ mentions 1,134 'bowes of ewe' and 225 'of wich' ('wych/wich' was probably *ulmus carpinifolia*, a common elm of the eastern counties, and not *ulmus glabra*, today called 'wych-elm').

Bowstaves can be taken from the sapling, the trunk or the primary branches. Contemporary accounts value the trunk highest — in c.1337 a bow of bough wood cost 12d

(5p), one of tree 1s 6d (7½p); see Part 1 for examples of contemporary money values. For reasons of supply, discussed below, the main source used was the primary branches; all the *Mary Rose* bows which I have seen appear to be branch bows.

Contrary to popular belief, the bow is not made from a straight stave: in fact, when a yew branch is split the heartwood grain expands and gives the stave a pronounced curve away from the archer. This the finished bow will retain (when unstrung) until it has been 'shot in'; and even then the forces that caused it will work to the benefit of the bow's performance. Many of the *Mary Rose* bows are shaped thus. With a bow made from a well-seasoned stave there will always be a hint of a forward curve at the tips: the modern term is reflexed. Most contemporary and later bows of laminated construction — i.e. made from more than one length of timber — have this feature built into the stave by gluing the laminations together over a template.

The bowyer would convert this stave into a bow by 'piking', 'sinking in' and

'tillering'.⁶ To 'pike' is to taper the limbs down to a fine point at the tips; to 'sink in' is to instil a permanent bend 'bellywards' in the mid-section of the bow to allow a long draw; and to 'tiller' is to ensure an even curve throughout the length of the drawn bow, except for a stiffer handle section. Some bows were also subjected to 'whipping', which means to increase, by the application of mild heat, the forward curve of the last ten inches or so of each limb: the modern term is to recurve. This can dramatically raise the power of the bow but, as Ascham says, it must be done '... with discretion, leaste he whippe in sunder'.

Ideally, the finished bow will be approximately 5 ft. 7 in. to 6 ft. 2 in. in length, about 1½ in. wide at the handle, and of a flattened, rounded D-section. If the measurements are far outside these parameters the performance suffers. Extra length simply increases the limb weight without improving the cast, and extra width at the handle detracts from the arrow shot because of the increasingly 'off centre' angle of the arrow, and consequent greater friction.

The English were renowned for the strength of their shooting, owing to their technique of drawing 'to the ear' or the right shoulder, which is beautifully delineated in the 'Beau-champ Pageant' illustration published in Part 1. This method, which uses the full strength of the back muscles instead of just the arms, enabled the shooting of the long arrows to maximum range by using the full power of the bow. However, many illustrations show archers drawing shorter; and I believe that for close shooting, when accuracy was paramount, some archers changed their technique.

The illustration shown here depicts four English archers at the siege of Caen, 1346 (note, incidentally, the red cross badge worn on the brigandines and livery coat). They are shooting at close range, and the artist has taken the trouble to show each one using a different style, all of which would be recognisable to any modern 'field' archer. In many modern competitions which combine distance with target shooting one can see this combination of drawing to the ear for the long shot, and to an 'anchor-point' on the face or chin for the target shot. The degradation of performance suffered by a bow designed to be drawn 32 in. or more if only drawn 28–30 in. is too small to make a noticeable difference at ranges of 50 yards or so. No doubt many English archers were quite capable of shooting accurately at either long or short range by drawing 'to the ear'.

While a three-fingered draw was certainly used in the medieval period (see the Zamora tapestry), and Ascham instructs on such a technique (though he was writing for the more genteel class), the great majority of European archers used a two-fingered draw. This gives a cleaner release than the now more common three-fingered method, since there is less friction. It was the origin of the Englishman's two-fingered 'salute', used originally by archers as a sign of contempt in the face of French threats to cut off the drawing fingers of any archer they captured. (Bibliothèque Nationale, Paris)

However, some of the *Mary Rose* bows are larger (though some are still staves); and the 1465 statute does state '... of his own length and one fistmele [4 in.] at the leaste ...'. It therefore appears that some reflexed (but not recurved) bows were made longer for supposed safety, as Sir John Smythe says: '... in time past ... there was special care had, that all Liveray, or warre bows being of the wood of Yewgh, were longer than they now use them ... that they seldome or never

brake'. Finished bows were categorised as 'painted' (polished) or 'white' (unpolished).

There has been lively debate in archery circles as to whether the bows had horn nocks fitted to take the strings. No document survives that lists any kind of order for nocks, although the supply would have had to be on a massive scale. However, many illustrations clearly show horn nocks (see the Zamora tapestry), and all the *Mary Rose* bows have marks that indicate some kind of nock.

Strangely, no handle fittings were added. All illustrations clearly indicate that there were no bindings of any sort; and Ascham recommends the waxing of the centre of the bow to stop the heat and moisture of the hand spoiling the wood. None of the *Mary Rose* bows have indications of any handle, though there are marks at the dead centre of the bow which — as well as being the bowyers' marks — probably indicate where the arrow should always be shot from: consistency was important for accuracy and safety.

Strings

Sir John Smythe wrote: '... and the strings being made of verie good hembre, with a kind of water glewe to resist wet and moysture; and the same strings beeing by the Archers themselves with fine threed well whipt, did also verie seldome breake. But if anie such strings in time of service did happen to breake, the soldiers archers had

alwaies in readinesse a couple of strings more readie whipt, and fitted to their bows, [i.e. made to measure] to clappe on in an instant. And this I have heard of divers Yemen that have served as soldiers Archers in the field.' (To 'whippe' is to wind some thread around the loops and centre-section of the string to protect it from wear.)

'Hemp', usually associated with plants of the genus *canabis*, actually refers to fibres taken from any similar plant; and a recent article⁷ makes a strong case that the primary source of what was known as 'English hemp' may have been the common stinging nettle. Hempen strings, made properly as described by Smythe, are very strong, and it is not necessary for them to be made progressively thicker for the more powerful bows. Unfortunately, no strings appear to have survived from the *Mary Rose*, but the arrow nocks to which they fitted show that they were $\frac{1}{4}$ in. in diameter. Tests by the Galloway team have shown that this size is perfectly adequate for bows of more than 100 lb. draw weight. Strings were always supplied by the gross, in ratios to the individual bows of anything between two and twenty.

ARROWS

There were nearly as many arrow types as bow types during the medieval period, each designed for a specific purpose. Most people are familiar with the famous term 'clothyard arrow'; but there is no evidence that this was used before 1465 — and in any case 'clothyard' was not a specific measurement, but the distance between the chin and the outstretched hand, used by cloth sellers as a rough and ready guide.

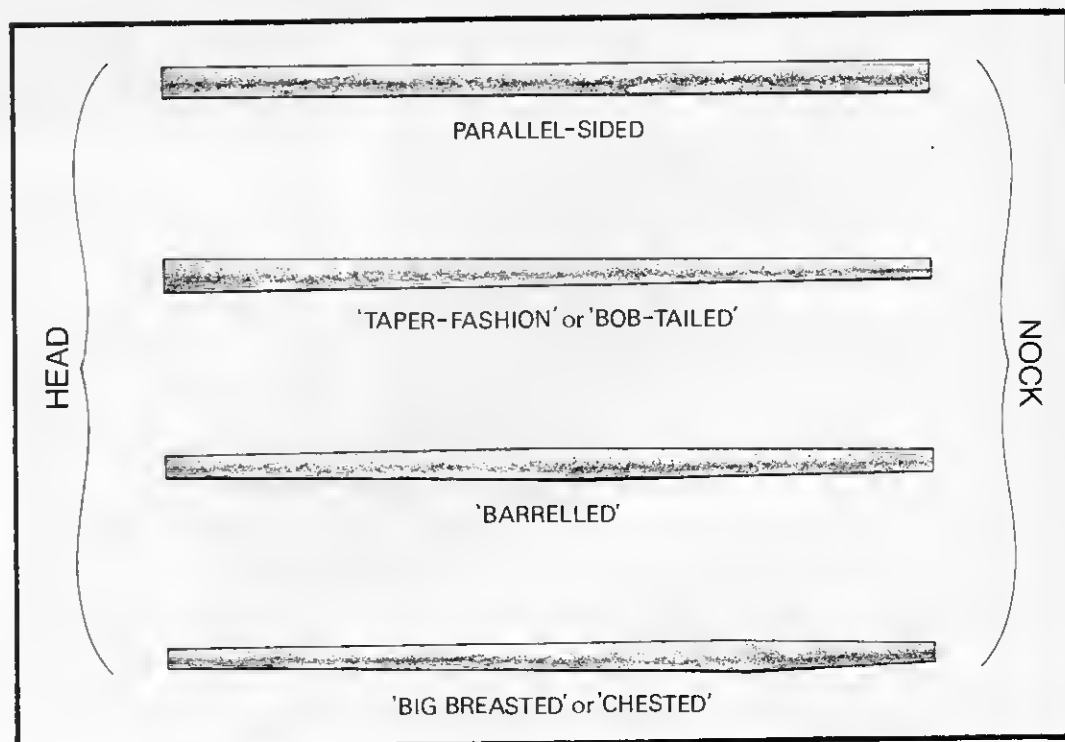
Many terms were used to describe arrows, the most common contemporary references being to 'flight' (lighter arrows for long range) and 'standard' arrows, with 'broadhead' appearing occasionally. 'Standard' probably refers to the war arrow, also called a 'sheaf' or 'livery' arrow; and it may imply that there was an actual standard issued by the government to which all arrows were made.⁸ Various timbers were used — Ascham lists 15 — though in England the wood of the aspen, *populus tremula*, was the most common for war arrows. As with bows, arrow supply was an industry, and the shafts were from carefully tended coppiced trees.

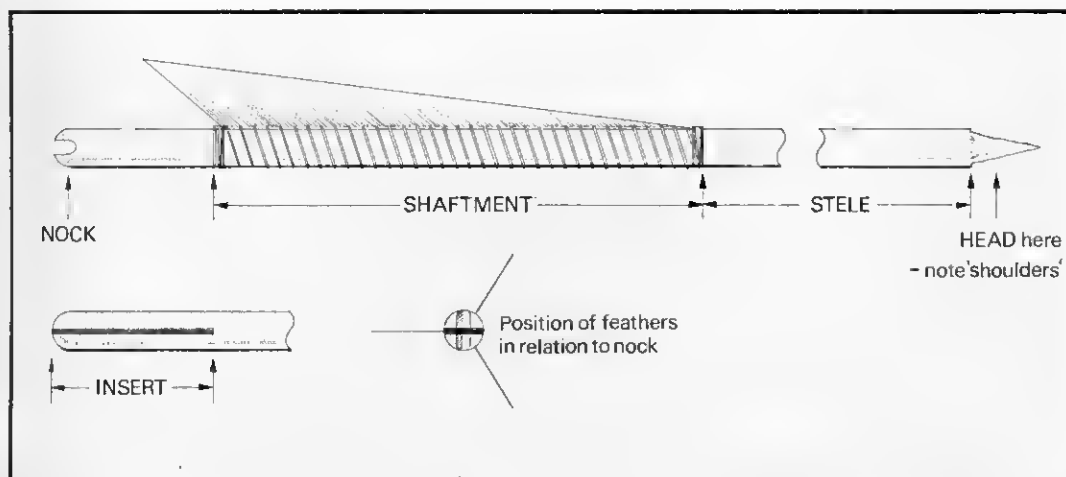
There were constant argu-

ments over the rights to this timber between arrow makers and the manufacturers of clogs and pattens (slip-on wooden oversoles), who also used aspen. A statute of 1419⁹ reserved aspens solely for arrows, but a sensible amendment in 1465¹⁰ released that proportion of the available aspen wood which was unsuitable for arrow making. Ascham considered aspen inferior to ash for making war arrows; but as he carefully qualifies this by saying 'some ash' he must have known — as research has established — that suitable ash is difficult to obtain in sufficient quantities. Ash yields either very good arrow shafts, or useless ones. However, some of the *Mary Rose* arrows are very different from the majority, and may prove to be ash. This would tie in satisfactorily with an order given to one William de Rothwell in 1359 to buy 10,000 sheaves of good arrows and 1,000 sheaves of the best arrows.

The *Mary Rose* has supplied us with perfect examples of war arrows (to which this article must be limited), and these are described in detail in the accompanying captions. (Though, interestingly, Sir John Smythe says that of every sheaf of 24, eight

Exaggerated here for clarity, the four possible shapes of arrow shafts. Ascham disliked the 'taper fashion' and relegated them to weak shooters, although the majority of *Mary Rose* shafts are so shaped. For strong shooters Ascham recommends the 'big breasted' because, as modern research has verified, the greatest stress on an arrow shaft at the loose is on the shaftment area. This shape also appears to be the most aerodynamically efficient. Robert Elmer, in his book *Target Archery* (1952), records that an archer acquaintance, Bill Jackson, consistently grouped half a target (2 ft.) higher at 100 yards when using this shape of shaft rather than any other.





arrows should be 'flight', to 'gall' the enemy at long distance). They have not, however, answered all the questions.

There is an intriguing reference in the 1475 supply list to 350 'sheffes of arrowes of ix ynches [9 in.] fethir'; 1,750 'sheffes of arrowes of viii ynches [8 in.] fethir'; and 7,960 sheafs 'of vii ynches [7 in.] fethir'. One can assume that the different sized feather meant different sizes of head, though it would seem simpler to use that terminology, i.e. 'bodkin', 'broadhead', etc. The reference is obviously to different kinds of the same general type of war arrow, but is not yet understood.

The ratio of arrows to bows supplied was always in 'sheafs', never less than two per bow and with no upper limit. On top of this, the archer was expected to arrive already equipped with a sheaf of 24 or 30 arrows.

SUPPLY and PRICE

The first thing that strikes anyone who consults contemporary records is the vast number of bows and arrows involved. In 1341 the 35 counties had to supply 7,700 bows and 13,000 sheaves of arrows. The demand increased at times of planned operations: in 1359 the same counties supplied 20,000 bows, 850,000 arrows and 50,000 bowstrings to the Tower of London. Most years during the 14th and 15th centuries can show comparable figures, and these would be in addition to other suppliers, and equipment

which was already in stock.

In the face of these figures, it is surprising how many books still give the impression that a bow supply was simply a question of searching a forest for a suitable tree, and running up a few bows from it. It is important to realise that bow supply was an industry — and a Europe-wide industry, at that. English bowstaves came from all over the known world, though it appears that, from the 15th century at least, Italy was the favoured country and Venice the main trading centre. In 1472 Edward IV stipulated that for every ton of merchandise brought in any 'carrack, galley or ship of the city or county of Venice, or of any other city, town or county from whence any such bowstaves have been before this time bought . . .', the merchants must bring ' . . . four bowstaves, upon pain of forfeiture to the king for every default . . . of the sum of 6s 8d. In Harleian MS 433 for the period 1483–85 there is a series of 'discharges' of customs duties for one Anthony Baveryne, 'merchants of Venice', for the importation of bowstaves; and in 1510 Henry VIII ordered 40,000 staves from the Doge of Venice (though not all were delivered). The Hatfield Papers of 1574, listing the main areas of supply then used, say that staves from Italy via Venice were of ' . . . the principle finest and stead fastest woods by reason of the heat of the sun which drieth up the humidity and moisture of the sap'.¹¹

These staves came from yews in purpose-grown plantations of carefully tended trees. The yews were pollarded, and the staves were taken from the consequent primary growth. Research should be pursued into the business of the unnamed craftsmen who grew such plantations, and who could supply staves which, according to the papers quoted above, had to be 'three fingers thick, and squared, and seven feet long, to be well got up, polished and without knots'. (Incidentally, Richard Gallo-way could make a bow from such a stave in just 1 $\frac{3}{4}$ hours, which gives some idea of the possible production rate.)

Great attention was paid to quality control and the grading of bowstaves. For Edward IV's statute of 1472, quoted above, examiners were appointed to check that the correct numbers came in, and to mark them for quality ' . . . after the manner as such staves in times past were wont to be marked'. In 1483 Richard III passed a statute that ten bowstaves, 'good and able stuff', had to be imported with every cask of Malmsey or Tyre — on pain of a fine of 13s 4d per cask — because, due to the 'Seditious confederacy of Lombards', staves were costing £8 per hundred instead of £2, and were not properly 'garbled' or sorted for quality.

There were also attempts to ensure the quality of workmanship, sometimes by the bowyers. In 1403 it was decreed that ' . . . the folks of the said trade [bowyers] in the

The majority of Mary Rose arrows are 'taper fashion', from $\frac{1}{2}$ in. thick at the head to $\frac{3}{8}$ in. at the nock. They average 30 $\frac{1}{2}$ in. from the nock to the 'shoulder' of the head, though some vary 2 in. either side of that figure. Woods so far identified are aspen (the majority), birch, alder, willow, elder, ash and hornbeam — all of which appear in Ascham's list. All but two of the horn (and perhaps, bone) inserts to strengthen the nocks, which would otherwise split from the thrust of the string, have disappeared, but the slits cut in the shafts show that they were 2 in. long and $\frac{3}{8}$ in. thick, slightly tapering. The heads have all rusted away, but remaining marks indicate that they were close to the 'Type 16' of the Museum of London catalogue: 'E' in the photograph of head shapes elsewhere in this article. The feathers, too, have all disappeared; but they would certainly have been from the grey lag goose (although peacock wing and, more rarely, swan were also used by the medieval fletcher). Surviving marks on the shafts show that they were 6–6 $\frac{1}{2}$ in. long, tied down with thread as well as glued — with a couple of turns at each end, and then about five turns to the inch. The height of the fletching can be deduced from the Zamora tapestry. The shaftment area ('shaftment' = bracing height of the bow) was covered in a green pigment, as yet unidentified but probably associated with the gluing. (Some contemporary paintings, e.g. Meunling's 'St. Christopher between St. Maurice of Glanfeuil and St. Egidio' now in the Stedelijk Museum, Bruges, show the identical area coloured red.) The feathers start 2 in. down from the nock; the reason for this distance, so much longer than on modern arrows and other contemporary shafts, is that the feather — to speed production — was cut triangular, leaving the natural backwards slope; so enough space had to be left to ensure that the fingers of the drawing hand did not crush them.

The second type of arrow found on the Mary Rose, though in far smaller numbers, was identical to the above except that the shafts were parallel-sided, about $\frac{7}{8}$ in. diameter, and appear to have borne heads of 'Type 8' in the London Museum catalogue: 'D' in our accompanying photograph. (Drawn by Christa Hook. Information from the Mary Rose Trust Ltd., and Commander Paterson's reports in various numbers of the Journal of the Society of Archer-Antiquaries.)

said city [London] shall have power every year . . . to elect two persons . . . to survey and make search during the year . . . as to all manner of arrows and heads of arrows and quarrells . . . and they shall have the power to seize such artillery as shall be found to be false and deceitful . . . the persons who shall have made such false work to be punished . . .¹²

We do not know the price actually paid by the government for the finished bows, though it seems that they simply bought the staves and employed the bowyers. In 1359 William de Rothwell, Keeper of the King's Privy Wardrobe in the Tower of London, was ordered to ' . . . take in London and elsewhere as many armourers, fletchers, smiths and other artificers and workmen as are required for the making of armour, bows, bowstrings, arrows, arrowheads . . . and put them to work at the King's wages . . . ' — which sounds like a

form of conscription.

There were attempts to control the 'shop price' of bows to the individual; and, as there are similarities between the prices in the 15th and 16th centuries, it seems that some measure of success was achieved. In 1467 Sir John Howard, on a trip to London, visited Fyshlock the bowyer and bought himself a bow for 2s — but for his prize archer Daniel (see Part 1) he paid 10s 6d for two bows; and later bought him two more bows at 6s 8d each, and a sheaf of arrows for 5s.¹³ In 1475 Edward IV stipulated that no yew bow was to cost more than 3s 4d, a decree repeated by Henry VII. In 1480 John Symson of London bought ten bows for 20s. Compare these examples with a statute of 1566 which stated that bows of 'outlandish [i.e. foreign] yew of the best sort' were not to be sold for more than 6s 8d, the 'second sort' for 3s 4d, and the coarse sort, called livery

bows, for 2s — the price fixed for bows of English yew.¹⁴

RANGE and PERFORMANCE

It is meaningless to discuss the range of a bow unless we know the type of bow; its draw weight (the force, measured in pounds, needed to pull the string back the length of the arrow); and — equally important — the quality of the archer. Many strange equations have been used to calculate range. One increasingly used modern convention is to measure the distance between castle walls and nearby hills, the argument running that castle builders would have picked sites only outside bowshot of overlooking features. This is about as sensible as calculating the range of a 1914 Lee-Enfield at 100 yards, from the width of No Man's Land in parts of the Western Front. There are only two realistic methods to use: to read from contemporary accounts what

ranges were expected and achieved; and to shoot replicas in attempts to match the written record.

Both methods present problems. Unlike a firearm, whose performance in different hands will vary little provided that the same load is used, the distance reached by an arrow depends on the strength and skill of the archer. John Noonan would consistently shoot at least 50 yards further than other members of Richard Gallo-way's group sharing the same bows and arrows; so how are we to compare with our forefathers, who were as strong or stronger, and brought up with the bow from childhood? This uncertainty is compounded by the fact that the quality of timber used for medieval bows, as shown by the *Mary Rose* finds, is simply unobtainable today.

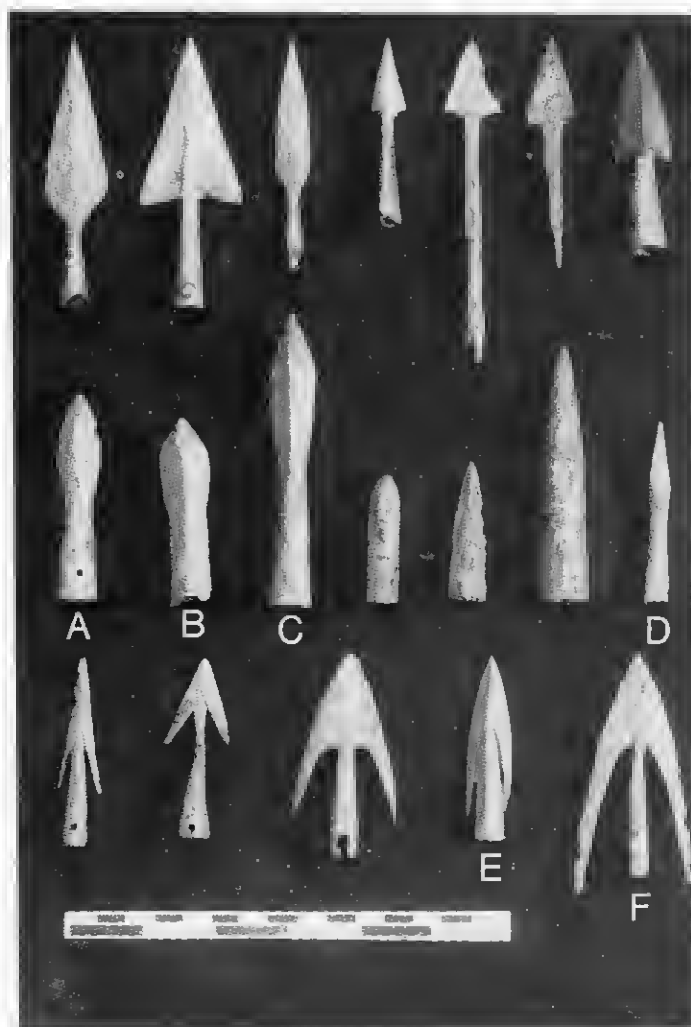
One oft-quoted piece of written evidence is found in Shakespeare:

*'Jesu! Jesu! dead! a' drew a good bow; and dead! a' shot a fine shoot; John o'Gaunt loved him well, and betted much money on his head. Dead! a' would have clapped i' the clout at twelve score; and carried you a forehand shaft a fourteen and fourteen and a half, that it would have done a man's heart good to see.'*¹⁵

But what was a 'forehand shaft'? Again, a statute of Henry VIII in 1542¹⁶ forbids anyone over 24 years of age to shoot at any mark of eleven score yards or less with a 'prick' shaft. A guess, though an educated one, would suggest that a forehand shaft was probably of a hefty size, and Shakespeare reckoned 290 yards a good shot with one; Ascham recommended 'big breasted' arrows for 'forehand' shooters and 'little breasted' (tapered?) shafts for 'underhand' shooters. A 'prick' in this context was an obelisk-shaped turf target about six to seven feet high. In Carew's 1620 survey of Cornwall he says that its archers had 'pricks' at 24 score (480) yards for long shooting; so a 'prick' shaft was probably a flight arrow.

One interesting piece of evidence is a small book

Group of arrowheads from the collection of the Museum of London; the diameters of the socketed types range from $\frac{3}{8}$ in. (6mm) to $\frac{7}{8}$ in. (12mm), though many are too damaged for accurate measurement. It is probable that the largest 'bodkin' types (A, B and C) are crossbow bolt heads. Though not of an armour-piercing shape, the head catalogued by the Museum as 'Type 16' (E here) appears to be the most common type found, and the one probably fitted to the *Mary Rose* arrows; it is the type used on the *Westminster* arrow, the *Zamora* tapestry shows it, and Ascham describes it as being on war arrows in 1545. Types resembling F here are clearly shown being used against horses in many medieval illustrations. Museum catalogue 'Type 8' (D here) may have been fitted to the second type of identified *Mary Rose* arrows. Though all these types would have been glued in place, some examples still retain rivet holes in the sockets for extra strength. (The Museum of London)





Archers of the Burgundian Army, probably English, shooting messages into a besieged town; the cloth arrow bags are peculiar to, though common throughout, the illustrations in these Swiss chronicles (*Chronicle of Diebold Schilling, Bibliothèque de la Bourgeoisie de Berne*.) Similar bags, though not of the same large size or regular shape, are found in other illustrations. Archers are also frequently shown with arrows simply stuck in their belts. Quivers seem rarely to have been used; and the 'back' quiver so beloved of Hollywood is categorically never seen in medieval illustrations. Note, top right, an archer giving what appears to be the English two-fingered 'V-sign'.

entitled *Ayme for the Finsbury Archer*, first printed in 1594,¹⁷ which lists all the targets that used to stand in the fields around the northern outskirts of London up to the 17th century. Several of these targets — which had such picturesque names as 'Saracen's Head', 'Elephant and Castle', etc — are described as 'eighteen score and eighteen' yards (i.e. 378); the longest range is 'nineteen score and fourteen' yards (i.e. 394). Though the rules do state that the target '... must be in every man's reach', perhaps not all archers were expected to shoot these ranges. Sir John Smythe categorically states that war arrows should travel 12 score (240) yards; and writes '... then some number of archers being chosen, that could with their flights shoot 24 or 20 scores (as there be many that can) ...'

The distance achieved obviously depended greatly upon the power of the bows, and their draw weight has been argued at being anything from 50 lb to 200 lb. Suffice it to say that all the bows made by Richard Galloway to contemporary references were in the range 60–160 lb., at anything from 28 in. to 34 in. draw length; and those made to *Mary Rose* bow measurements were between 90 and 120 lb. and all between 30 in. and 32 in. draw length. As for the doubts sometimes expressed about archers being physically capable of shooting the heavier weights for any length of time: I once watched John Noonan shoot his 118-lb. yew bow continually over a weekend-long competition.

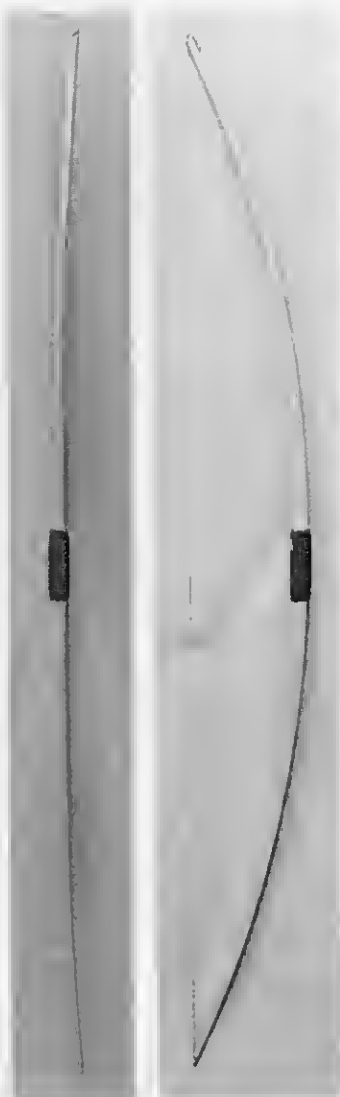
Too much importance is perhaps placed on the ques-

tion of sheer distance. After all, enemy horsemen were only at extreme range at the start of a charge; and, as Richard Galloway says, the battles began as a sort of 'creeping barrage' in reverse. No matter how skilled the individual marksman, it was rate of shooting — then as now — which counted. Froissart often uses such phrases as '... their arrows so wholly [together] and so thick, that it seemed snow ...'. A Burgundian captain wrote in 1474: '... shot from hackbutts and culverins flies at us thicker than arrows in an English battle ...'. Jehan de Wavrin wrote: 'I am of the opinion that the most important thing in the world in battle is the archers, but they must be in thousands, for in small numbers they do not prevail'.

For what it is worth, for

long shooting my own record is 15 arrows a minute, achieved more than once. Though unaimed, all landed in a fairly compact area (certainly no larger than a 12 ft. square) at about 300 paces: good enough to be effective when shooting at a compact mass of enemy. For aimed shots at 50 paces I have often managed eight shots a minute. A trained medieval archer would obviously match or surpass this. As to distance shooting: I have often shot arrows of *Mary Rose* size 180 yards from a 70-lb. bow, and would expect to improve on that with better technique and a heavier bow. John Noonan consistently shot 1 oz. target arrows 360 yards from his bow, and on one occasion shot a flight arrow out of a 400-yard long field: the arrow was never found.

Two laminated bows made by Christopher Boyton, in the unstrung, braced, and drawn positions. On this page, a 'reflexed' bow which has not been 'sunk in'; opposite, a bow with the added 'recurves', which has. Compare the shape of these bows with those shown in contemporary illustrations, particularly that used by the Burgundian archer in the MS illustration associated with the brigandine detail in Part 1. The 'reflexed' bow is 72 in. long, and takes a 30 in. arrow; although only 68½ in. long the 'recurved' bow can take a 32-in. arrow due to its shape.



PENETRATION

As late as 1557, one Giovanni Michiel could report home that the English '... draw the bow with such force and dexterity at the same time, that some are said to pierce corselets and body armour, and there are few among them, even those that are moderately practised, who will not undertake at a convenient distance, either aiming point blank or in the air (as they generally do that the arrow may fly further), to hit within an inch and a half of the mark'.

Numerous modern tests have been undertaken to prove that the arrows are capable of piercing armour — as many contemporary illustrations quite clearly show them doing, and for which the 'bodkin' head was certainly designed. It has been verified that, providing the head strikes the plate at or near 90° — i.e. at right angles — it is possible to penetrate plate of a thickness typical of 14th- and 15th-century armour. Any significant deviation from this angle causes the arrow to be deflected, and sometimes to shatter as it does so — although analysis of the metallurgy of surviving heads has suggested that this danger

was understood, and guarded against during the forging process.

Armourers were well aware of this capability, and consequently shaped armour to present glancing surfaces to missiles and blows. It is (plausibly) reputed that English bowmen sometimes used to put a small piece of beeswax on the tips of their arrows to stop this initial deflection, though the efficacy of this has not yet been tested.

Whatever the effectiveness of armour, the sheer numbers of arrows shot in a 'typical' battle meant that some, even deflected ones, must have found chinks in the protection of even well-armoured men. Mail, the primary defence at the beginning of the French wars, offered only very limited protection against arrows, as described in Part 1; even the wealthy and well-equipped Genoese

crossbowmen, who may be presumed to have worn extensive mail protection, suffered heavy losses to arrow shot at Crécy.

Against 'soft' defences and flesh, arrows were frightfully, and very visibly effective. (A detailed murder report of 1293 describes how one Simon Skefington was shot with a barbed broadhead arrow which caused a fatal wound 3 in. long, 6 in. deep, and no less than 2 in. across.) In more recent times big game bow-hunters have killed all of the 'Big Five' (elephant, rhino, buffalo, lion, and leopard) with broadheads; and the effect of arrows against horses, the first target in any battle, is graphically shown and described in contemporary documents.

Apart from the more or less well-known anecdotes emphasising the penetration of arrows, there is an entry in

the diary of Edward VI (reg. 1547–53) which describes how 100 of his archer guard shot two arrows each at an inch-thick board of seasoned timber. Although the distance is, unfortunately, not recorded, the account states that some pierced completely through the board, and some struck in a second board placed behind it.¹⁸

SHOOTING

The ability and strength needed to shoot heavy bows is not something that can be achieved easily. Many people today who train hard to shoot bows of 100 lb. and more suffer from muscle strain. Medieval Englishmen were well aware of this fact, and emphasised the importance of starting young and growing up with the bow: see Bishop Latimer's sermon to the young Edward VI in 1549:

'In my time, my poor father was as diligent to teach



me to shoot as to learn any other thing, and so I think other men did teach their children. He taught me how to draw, how to lay my body in the bow and not to draw with the strength of my arms as other nations do, but with the strength of my body. I had my bows brought to me according to my age and strength, and as I increased in them so my bows were made bigger, for men shall never shoot well except they be brought up in it . . .'

Many statutes were laid down which encouraged the practice of archery as a pastime above all other games. In 1363 the king told his sheriffs: 'When as the people of our realm, nobles as well as commons, usually practised in their games the art of archery leading to honour and profit for the realm . . . and we gained not a little help in our wars . . . now the art is almost totally neglected and

the people amuse themselves with dishonest games so that the kingdom, in short, becomes truly destitute of archers.' (As an example of the everlasting tendency of each generation to grumble that 'the country's going to the dogs', this must stand high: it was written just seven years after Poitiers, and 52 years before Agincourt!)

* * *

Literary references to the central place won by the bow in the English national consciousness are legion; and many everyday phrases which we still use unthinkingly can be traced to the days when the bowman was England's strength and pride. There can surely be few better proofs of the place of the bow in the English psyche than an anecdote related and recorded in Oxfordshire in 1954.¹⁹

A man recalled that when

he had been a boy, growing up between Oxford and Banbury in the mid-1920s, his father took him into the woods on his seventh birthday. There the father cut from a yew tree a branch three or four feet long and as thick as a man's finger. From this he fashioned a bow, leaving the bark on the branch but cutting nocks, fitting a whipcord string, and binding on a cork handle. He also made his boy arrows fletched with goose wing feathers, bound in place and not glued; the arrows were not fitted with heads, but had tips hardened by roasting.

Apparently, although the men of that region had no interest at all in archery as such, many of them faithfully carried on this tradition, handed down from generation to generation since time out of mind . . .

Perhaps it is a tradition we might do well to revive? **MI**

Source notes:

- (1) Letter no. 58, *The Paston Letters*, ed. James Gairdner; see also no. 130.
- (2) Cf. bows found in Saxon burials, Nydam Moor, 1863, and now in the National Museum of Denmark.
- (3) Statute Roll 5, Edward IV c1v.
- (4) Statute 33, H.8 c9.
- (5) Indenture dated 29 Sept. 1475 confirming that John Sturgeon has delivered the 'artillery' to William Roos in France: PRO E101-55-7.
- (6) For the best discussion of this, see *More on the Mary Rose and the thoughts of Roger Ascham*, Richard Galloway; *Archery International* Vol. 2 no. 9, 1982.
- (7) Some speculation on the Nature of Longbowstrings, Philip D. Hartley; *Journal of the Society of Archer-Antiquaries* Vol. 27, 1984.
- (8) Though, confusingly, the Statute of 5 Ed. IV c1v above also states that as well as the 'English bow' the men are to have '... 12 arrows of a length of $\frac{3}{4}$ of the standard . . .': which may refer to the standard yard, though that would make them rather short at 27 in.
- (9) Act 4 Henry V c3.
- (10) Act 4 Edward IV c9.
- (11) The papers also list: staves from the Bishopric of Salzburg, shipped down the Rhine and the Main to Dort and thence to England, at £15-£16 the hundred; and staves from Switzerland, above Basle, at £12 the hundred. Staves from 'Revel, Dansk, Polonia and all countries east of the Sound' were only £4-£5 the hundred, '... being of hollow wood and full of sap by reason of the coldness of those countries . . .'
- (12) London Letter Book I, London Archive, Henry IV.
- (13) *Household Books of John, Duke of Norfolk and Thomas, Earl of Surrey, 1481-90*, ed. Payne Collier, Roxburghe Club, 1844. See *The Yorkist Age*, Paul Murray Kenall (London, 1962), p. 199.
- (14) Statute of 8 Elizabeth c10.
- (15) Shallow, on hearing of the death of 'old Double': *Henry IV Part II*, Act 3, Scene 2.
- (16) Statute of 33 Henry VIII.
- (17) *Ayme for the Finsbury Archers, or an Alphabetical Table of the Names of every mark within the same Fields with the true distance by the map, and Dimensuration with the line*: published by JS and EB (London, 1594); republished by RF in 1604, and by James Partridge in 1628.
- (18) MSS diary of King Edward VI, Brit. Mus. Bib. Cotton Nero C10 P55 (p. 39).
- (19) Told to J. Kember-Smith, and related in *British Archer* Vol. 5 no. 5, Feb./Mar. 1954.

Equipment of the Royal Marine Commandos, Falklands, 1982

PAUL HANNON

For all their diverse duties — and the Corps has been the first choice for deployment to trouble spots all over the world since 1945 — the RM Commandos are generally armed and equipped in parallel with the rest of Britain's ground combat forces. However, most marines lavish great care and attention on their equipment, and have consistently taken advantage of the best that commercial manufacturers can produce. The choice of clothing in the wet conditions of the Falklands winter was to prove difficult. Waterproof clothing causes a build-up of perspiration; combined with the sudden drops in temperature, equally sudden thaws, and the high wind chill factors, this creates very dangerous conditions. The annual winter training in Norway, where such conditions occur at the end of winter, was to stand 3 Commando Brigade in good stead. The troops came to terms with the inhospitable conditions of the Falklands to the extent that morale became higher as they moved eastwards, living only by those resources which they carried in their 'fighting order'.

The classic photograph of Royal Marine Commandos in the Falklands: men of 45 Cdo. enter Stanley after 'yomping' some 84 miles across East Falkland from Ajax Bay. X-Ray, Yankee and Zulu Coys. of 45 Cdo. were on Sapper Hill when news of the Argentine surrender reached them; but they still had one more night to spend in the open without sleeping bags. The marine in the foreground leaning into the weight of his pack and cradling his SLR across his pouches, wears his windproof smock loose at the hem, instead of blousing it up as was more usual. (MoD. All other photographs in this article are reconstructions, posed with original items of equipment.)



CLOTHING

As the bulkiness of marines seen in photos of the campaign clearly indicates, all wore several layers of clothing. The basic Arctic clothing costs around £700 per man, and is designed on the 'layer' principle of trapping air between each layer of clothing to enhance insulation. As his first layer the marine is provided with 'Drawers and Vest ECW', effective but rather shapeless white cellular 'long johns'. Most marines obtain alternatives, usually of Norwegian origin but sometimes commercial skiing items such as those produced by Nevis Sports.

Shirts

The current combat shirt is made of heavy olive green wool; this is the standard temperature climate item. Some individuals still wore the older 'Shirt KS'; but by far the most popular cold weather alternative is the privately purchased Norwegian Army shirt, known as the 'Nörge'. This is a very warm olive green cotton pile garment with a zip-up roll collar. Occasionally worn over it was the DPM Tropical Shirt/Jacket: this zip- and button-fronted garment was useful because its large breast pockets could be filled with some of the many smaller items carried, e.g. rations, field dressings, etc.

Sweaters

Again, Norwegian Army issue was used to some extent; this is a heavy green woollen sweater with a deep crossover V-neck closed by a velcro tab. However, the more commonly worn item was the standard 'pusser's issue' sweater,¹ the familiar 'woolly pully' in olive green, complete with 'Royal Marines/Commando' shoulder titles in red on black. Rank insignia worn on sweaters is in the form of small black chevrons embroidered on drab green cotton rectangular patches and sewn to the right sleeve only. The standard parachutist's qualification 'wings' brevet, if held, is also worn on the upper right sleeve.

Liners

A set of quilted olive green jacket and trousers, commonly known as the 'Mao suit', is issued for wear as part of the 'layering' system; these are made of lightweight nylon, incorporating a thermal padding. The jacket is cut to cover the whole body from the neck to below the hips, and has full-length sleeves; two sets of front buttons give an adjustable fit. The high-waisted trousers have a drawcord at the waist and full-length zips up the sides of the legs, enabling them to be taken off without removing the boots; velcro fasteners give tight closure at the ankles. This suit is normally removed on the march, as its bulk and warmth make movement tiring. During halts they are often slipped on over the windproof smock and trousers, for speed.

'Headover'

This is simply a knitted tube of an olive green wool/nylon mixture; a supremely versatile item, it can be worn as a

¹'Pusser's' — in RM slang, anything officially provided, orthodox.



Top left, the bulk of the 'Rucksack, Ski' shown clearly, with attached sleeping mat, sleeping bag, and '58-pattern shovel. At his waist is the nylon haversack for the respirator; ahead of it the RM-pattern steel helmet is slung from a pouch. **Top right**, GPMG 'number' on the march, wearing windproof smock and trousers, 'headover' and beret, ski-march boots and snow gaiters. **Left**, pause for a snack: digging biscuits into the can of meat paste. (This substance is an acquired taste, and 'Royals' have advanced several colourful theories as to its origin.) Note square toe of the ski-march boot, and gaiter strap detail.

Schematic drawing showing main features of the DPM-camouflage 'Smock, Combat, Arctic Windproof' described in detail in the text.



Below
The 'Parka, CW' is made of heavyweight DPM-camouflage cloth, and follows the windproof smock in general cut and detailing; however, it is much longer, reaching to just above the knees. It has a wired hood, and is lined with quilted nylon material. Epaulettes are in the conventional position, and not on the chest and back as on the windproof. The elbows are reinforced; and the cuffs are closed by a velcro strap arrangement.

Below right:

The waterproof 'Smock, Combat, Reversible Olive Drab/White', worn here with the cuffs turned back to show the white snow-camouflage side.



toque round the neck, as a balaclava, or folded into a shape reminiscent of the old 'cap comforter'. It mainly serves the vital purpose of preventing the escape of insulating air around the neck.

Windproof Smock

The DPM-pattern 'Smoek, Combat, Arctic Windproof' is hand-made of close-weave cotton gabardine to a very high standard: around five metres of 36-in. wide material is used in each



smock, and a trained machinist can produce only two a day. Of generous cut, the smock has four large bellows pockets closed by large, easily-manipulated buttons; on the left upper sleeve is a pen pocket with a buttoned flap. The frontal, heavy-duty zip is covered by a velcro-fastened storm flap. Attached to this at chest level is an epaulette strap for the display of rank insignia, though this is optional. An identical epaulette is placed in a similar position in the centre of the back of the smock, so that rank can be identified from the rear. The deep hood is lined with double-thickness DPM material; similar reinforcement is provided over the shoulder yoke and at the elbows. The hood has a wire stiffener sewn into the 'peak', allowing personal adjustment; and there is a drawcord at the throat. The waist and hem also have drawcords, and the wrists have velcro fasteners.

Being of lightweight material, the smock was found to be fairly quick to dry; and its windproof qualities were vital in retaining body heat. With the pockets stuffed with rations, ammunition and field dressings, however, the smock could weigh up to 20 lb.

Windproof Trousers

The matching high-waisted DPM-pattern windproof trousers have a double-thickness lining from the hips to just below the knees. The bottoms of the legs have velcro-fastened openings on the outer side, allowing them to be taken off without removing the boots. There are five belt loops on the waist, and buttoned adjusters on the waistband at either hip. On the inside of the waistband are buttons for attaching braces, which are sometimes worn. A large bellows pocket is provided on the outside of each thigh, closed by a buttoned flap; there are also two slash side pockets with velcro fasteners, a rear hip pocket, and a first field dressing pocket (which is seldom used). When wet,

and with the bellows pockets loaded, these trousers became very heavy and had a tendency to chafe at the waist.

Parka

The 'Parka CW' (Cold Weather) also saw limited use; but in the wet conditions of the Falklands it was something of a liability, as it became extremely heavy when soaked through, and flapped round the legs annoyingly. Details are given in the accompanying caption.

Waterproofs

The 'Smoek, Combat, Reversible Olive Drab/White' and its matching trousers were the issue outer waterproof layer. Made from polyurethane-coated nylon, the smock has a hood with draw-cord, a heavy-duty frontal zip covered by a press-stud storm flap, and press-stud cuff adjustment. There are no external pockets; but the matching trousers have a large pocket on each leg.

Other waterproofs used in the Falklands came from many sources, and were often privately purchased. The Army-type DPM printed nylon waterproof smock was occasionally seen; this has four pockets with velcro fastening, and velcro cuff closures. It is most easily identified by the brightness of the camouflage colours compared to those of the other DPM garments. Civilian waxed jackets by Barbour and waterproofs by Helley Hansen and Berghaus were sported by some 'Royals', but usually worn beneath the issue clothing: the green drab colour of many of these items was felt to be dangerously similar to Argentine issue clothing at a distance.

Headgear

The most distinctive feature of the Royal Marine's appearance is the hard-earned green Commando beret, with its bronzed globe-and-laurel badge. It was widely worn in action, often in conjunction with the 'headover'.

The 'Cap CW', in DPM windproof cloth, saw widespread use. Lined with

quilted nylon material, it has fur pile ear and neck flaps which fasten above the crown by a velcro patch when not in use.

Many types of knitted cap were worn, including various dark-coloured watch caps as sold in camping stores, and — perhaps most popular — a 'beanie' of the kind immortalised by 'Radar O'Reilly'.

The 'headover' was often worn in conjunction with the steel helmet. This was normally of RM pattern, which is basically the rimless steel 'pot' of World War II Royal Armoured Corps issue but with a simple elasticated chinstrap. The 1943 'tortoise'-shaped steel helmet was also issued to some extent. Helmets were heavily camouflaged with hessian, netting and scrim. Royal Marine snipers were seen to wear DPM bush hats, often with the brim cut down, suitably embellished with loops to take camouflage scrim, and usually worn in conjunction with a face veil.

Footwear

All marines wore the highly-regarded white, loop-pile Arctic ('pusser's') socks, and sometimes green issue socks over these. The poor performance of the boots DMS (see below) obliged the troops to dry and powder the feet every day. Wet socks were dried either inside the sleeping bag, or draped over the shoulders under the smock.

One welcome result of the Falklands campaign was the hastened demise of the venerable 'Boots DMS' ('Direct Molded Sole') introduced in the early 1960s. This performed extremely badly in continuous wet conditions in rocky or boggy terrain, and caused most of the many cases of 'trench foot'. The other issue footwear, the 'Boots Ski-March', fared slightly better, although these, too, are low ankle boots. When used with snow gaiters brought from Norway the ski-march boots did provide some measure of protection.

As with most types of kit,

civilian and privately acquired items were widely used. Popular with marines were 'Cairngorm' boots with heavy cleated soles, and high-legged German paratroop boots. The high-legged lightweight 'patrol boot' issued for Northern Ireland was also seen to some extent. Most marines wore the DMS boot and puttees, some lacing their NBC rubber overboots over the top for extra protection. The now-obsolete silicon-coated, zip-front rubber overboots were occasionally worn in rear areas, but they are too clumsy for front line use.

The 'pusser's' issue snow gaiters were, as mentioned

above, used in conjunction with ski-march boots. These are made of pale olive drab canvas, with long leather straps which pass around the sole and instep and buckle on top. Many models of civilian gaiter, of the type worn by hill-walkers, etc. were seen among the marines; popular were those made by Berghaus, including the more expensive Goretex types.

Gloves

The most common were the well-known padded black leather 'Northern Ireland' type, and the white woollen fingerless 'wristlets'. Olive green windproof mittens with reinforced palms and



Touching up the 'cam-cream': note the hood of the windproof rolled tightly down around its wire stiffener as a collar; 'headover' worn as a balaclava, pulled up over the beret; bronze badge; and white woollen wristlets, which loop around the thumb, index and little fingers.

Left:

Shirts and sweaters worn in the Falklands: **top to bottom, left to right:** 'Shirt, Khaki Serge', obsolete in 1982 but still worn by those who had them, here with the universal-pattern parachutist's brevet and black-on-green corporal's chevrons; the current green wool shirt; DPM tropical shirt/jacket, worn for the usefulness of its pockets; 'Norge' shirt, in pale grey-green cotton pile, with zip front, roll collar and buttoned cuff; green 'woolly pully', the only item on which the 'Royal Marines/Commando' shoulder title is worn; and greyish-green Norwegian Army sweater, with velcro at neck.

Below:

Left, 'Boots, DMS', which failed dismally in the Falklands; right, 'Boots, Ski-March', which performed better; left foreground, green commercial hiking gaiters by Berghaus, which were widely used; and right, the 'pusser's' snow gaiters, used with ski-march boots.



separate trigger fingers were also issued to some extent; and many other types, both civilian and military, were carried on an individual basis.

PERSONAL EQUIPMENT

Webbing LBE

The infantry load-bearing equipment used in the Falklands was the standard British 1958 pattern.² Most marines have evolved their own ways of wearing webbing, and the '58 pattern is a flexibly designed set which allows a good deal of personal adjustment and modification. Some marines discard the two rear ('kydney') pouches and replace them with several water bottle carriers, which increases overall load carrying capacity. The position of the poncho-carrier or 'bum roll' is often altered from the intended position below the kydney pouches; it is moved above them, and secured with 'bungees' (elasticated hooked straps, of commercial origin).

The '58 pattern water bottle and its matching plastic cup are often replaced by the old '44 pattern aluminium bottle, since this has an aluminium cup which is

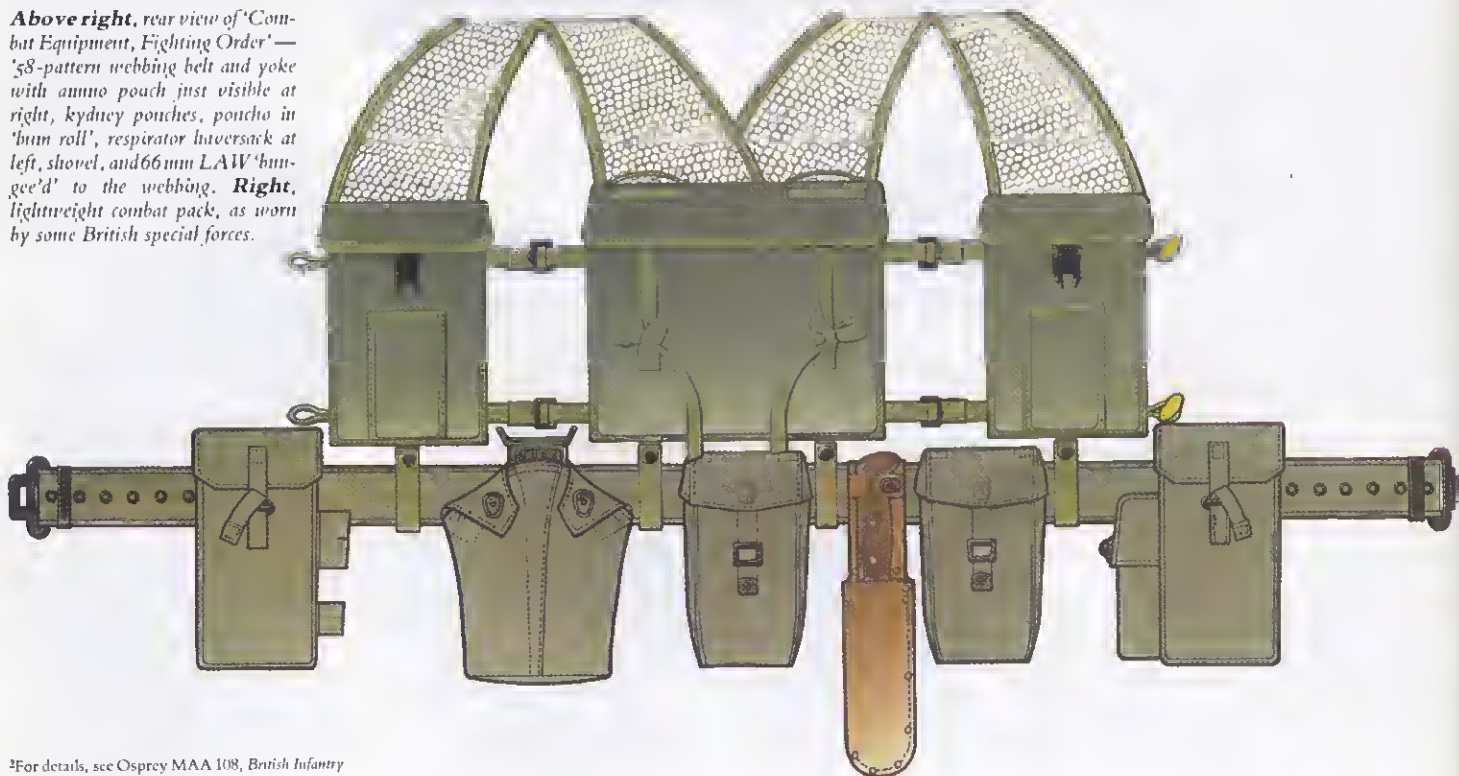
handy for brewing a quick 'wet'. The NBC respirator was carried in its nylon haversack — or, at least, both items were carried, but not necessarily together, since the haversack was preferred by some marines as handy stowage for items like knit caps, camouflage face veils, gloves, etc. NBC suits were issued for the campaign, but were not carried on the islands. In regulation fashion a pick or shovel was carried attached to the rear yoke of the '58 webbing, and the SLR hayonet in its frog on the left side of the left hand ammunition pouch.

When contact was made with the enemy, the marines moved forward in fighting order only. Rucksacks were left behind, to be flown up or transported on unit tracked vehicles later. The shortage of helicopter transport — which became chronic in the later stages of the campaign — meant that on some occasions men were without rations for 24 hours. After several such experiences 45 Cdo. devised what they termed 'heavy fighting order', i.e. 48 hours' rations and sleeping bags attached to webbing. With

continued on p.28



Above right, rear view of 'Combat Equipment, Fighting Order' — '58-pattern webbing belt and yoke with ammo pouch just visible at right, kydney pouches, poncho in 'bum roll', respirator haversack at left, shovel, and 66mm LAW 'bungee'd' to the webbing. **Right,** lightweight combat pack, as worn by some British special forces.



²For details, see Osprey MAA 108, *British Infantry Equipments 1908-80*.

THE SBS IN THE FALKLANDS



The marines of 2, 4 and 6 Sections, RM Special Boat Squadron, wore the standard windproof suit and liners. Many owned superior Goretex waterproof clothing. A black knitted woollen watch cap was a popular headgear. SBS marines normally wore their hair longer than most British servicemen, and often sported drooping moustaches, and even full beards: there are sound tactical reasons for this licence, arising out of their range of missions, but it does give them a slightly piratical air! In the Falklands a white bandage was sometimes worn round the head as a recognition sign when moving through British lines.

Their most immediately distinctive features were their variety of load-bearing jenkins, waistcoats and rigs. These included the special SBS chest rig worn by our figure (above), and shown in

schematic form (right). This has pockets for rifle magazines, and large side pockets which can accommodate the rounds for the M203 grenade launcher. The American nylon mesh survival vest also saw some use; as did a canvas rig similar to the British World War II 'battle jerkin'. Another variation was the lightweight combat pack (schematic view, opposite). It is shown here with a belt order made up of '58 pouches, '44 water bottle carrier, and issue survival knife. A number of other, privately purchased rigs were worn; these waistcoats allow the wearer to carry pistols, rifle magazines, torches and knives more easily. Other specialist equipment included two-man tents, and radio equipment. Our figure, wearing the SBS chest rig over his Arctic windproof smock, has a belt order made up from an aircraft quick-



release strap and incorporating several US ALICE pouches for 30-round magazines, and '44 pattern water bottle carriers.

Apart from standard Corps issue weapons, and the silenced version of the Sterling SMG, the SBS also used various American weapons

including the M16; the M203 rifle/grenade launcher combination carried by our figure; the Colt Commando carbine; the 60mm lightweight mortar; and, possibly, the Stinger missile, known to have been used during the campaign by the SAS.

Below:

Two versions of the 24-hour ration pack (perhaps aptly, universally known as a 'rat-pack') were issued in the Falklands. The 'GS' (general service), shown here on the right, came in four menus, each containing breakfast, main meal, snack, and 'sundries' pack — can opener, matches, toilet paper, etc. The contents were either canned or freeze-dried. The 'Arctic' packs (left) consisted mainly of dehydrated menus, which needed soaking before cooking. The chronic lack of helicopter 'lift' put fresh water far down the list of priorities behind ammunition and casevac; so the marines used water from pools and streams, which was infested with liver-fluke on these sheep-rearing islands. Unless thoroughly sterilized it caused diarrhoea, quickly christened as 'Galtieri's revenge'.

Both types of rat-pack contained a snack meal of chocolate, boiled sweets, biscuits and canned meat paste. One criticism was the absence of items such as cigarettes, razors and soap — hard for the marine to come by in a Falklands prat bog. Cooking was generally done on the 'pusser's' hexamine solid-fuel stove, though veterans of Norway deployments often had their own petrol or gas alternatives. Food was heated and eaten in the aluminium mess tin; a useful utensil was a spoon with a handle partly filed into a knife blade, known for some impenetrable marine reason as a 'yaffling spamer'.

extra ammunition, this meant that fighting order alone weighed between 70 and 80 lb.

Ponchos

Although seldom used for its original purpose, the poncho — a single, seamless, and thus completely waterproof sheet of coated nylon — saw much use. All marines carry small tent poles, guy ropes and pegs which are used to rig the poncho as a simple 'bivvy' or shelter. Privately purchased Goretex 'bivvies', which avoid the problem of condensation, were also used.

'Bergens'

Rucksacks included both issue and privately purchased types. The issue 'Rucksack, Ski' is made of nylon/butyl fabric. It is mounted high on its frame, the gap beneath taking the Arctic sleeping bag. The shoulder straps are padded, and provided with two attachment positions so that the rucksack can be worn high or low on the back. The main flap has four loops by which the sleeping mat can be secured across the top of the rucksack; there are side and

rear external compartments, and securing straps for entrenching tools, etc.

The issue 'bergen' has attracted criticism, both for a lack of durability, and for the tendency of the open frame to rub the wearer's back painfully. For these reasons many members of Commando units purchase more comfortable civilian types. The two most popular alternatives, both by Berghaus, were the Cyclops Roc and the Cyclops Centurion.

During the epic 'yomp' across East Falkland from the San Carlos beachhead to the hills overlooking Stanley, marines carried extraordinary amounts of kit. Moving in files with ten yards between each two men, a Commando 'snake' might stretch three miles over the drab, treeless landscape, each man carrying a combined average weight of around 120 lb.; the following list is by no means exhaustive:

Weapon; twice normal ammo scale (up to 300 rounds); weapon cleaning kit; two grenades; two mortar rounds (initially) or LAW 66mm (throughout); GPMG

link, usually stuffed into front of smock, or in olive green plastic-covered bandoliers; rucksack; sleeping bag; waterproof jacket and trousers; quilted jacket and trousers; poncho; tent pole, six pegs, three 'bungees'; pick or shovel; spare underwear; shirt, socks, gloves, cap CW; helmet; two days' rations; two water bottles; hexamine cooker; water sterilizing tablets; mess tins; eating irons — often spoon with handle filed into a knife; overboots; torch; field dressings. (All marines also carried morphine ampoules taped to their 'dog tags'.)

Sleeping Bag

The Arctic sleeping bag or 'green slug', although bulky and fairly heavy at 10 lb. 10 oz., is generally highly regarded. Filled with a mixture of down and feathers, it has an outer waterproof cover which also forms a draw-string bag in which the sleeping bag is stowed for attachment on the rucksack frame.

(In fact, the cover did not invariably prove to be water-





proof, as 45 Cdo. found out to their misery between San Carlos and Douglas. After bedding down one night without erecting 'bivvies', they awoke to find the bags soaked through. As the sleeping bag was about the only place on the Falklands where a marine could hope for respite from the constant cold and wet, incidents like this were regarded as disasters, and were temporarily damaging to morale. The wet bags added to the marines' already very heavy load; and as they had no way of drying them out properly, they had to endure several more nights in their clammy embrace.)

Sleeping Mat

This mat of grey expanded foam, fitted at one end with two pairs of tapes so that it can be rolled and tied to the rucksack, is provided mainly to ensure insulation between the ground and the sleeping bag, but also gives limited padding on hard or uneven ground.

WEAPONS

The personal weapon of most marines was the 7.62mm L1A1 SLR (self-loading rifle), used in conjunction with the SUIT (Sight Unit Infantry Trilux), which is self-energising

and can be used to observe indistinct targets by day as well as at night. The bulkier IWS night vision sight³ was issued on a scale of about one per section. The rifle was provided with the L1A3 bayonet which, remarkably in this day and age, was used by 42 Cdo. in vicious hand-to-hand fighting on Mt. Harriet on the night of 11/12 June. The SLR was carried on the old '37 pattern sling. Marine snipers were armed with the L42A1, an accurised 7.62 development of the old Lee-Enfield No. 4 rifle.

Men encumbered with heavy equipment, and some officers and NCOs, received the 9mm Sterling L2A3 sub-machine gun, principally intended for self-defence. It would appear that many of those issued with SMGs later discarded them in favour of SLRs. The standard pistol is the 9mm Browning Hi-Power with a 13-round magazine.

At section level are the belt-fed L7A2 GPMG (general purpose machine gun), with a cyclic rate of 600–1,000 rpm; and the old L4A4 LMG, a re-barrelled Bren gun, with a 30-round box magazine compatible with the SLR; both weapons are in 7.62mm calibre. The GPMG is nor-

mally issued on a scale of one per section, its sustained fire kit of tripod and digital sight being issued three per company. Those Commandos earmarked for operations in northern Norway are additionally issued one LMG per section. On several occasions during the Falklands campaign increased numbers of both weapons were issued to RM sections. A support section specially formed for the attack on Two Sisters mountain was armed with seven LMGs; and early in the landings at San Carlos a fighting patrol of around 35 men was inserted at Fanning Head armed with no less than 16 GPMGs.

For all these weapons, an important source of resupply was the dumping of millions of rounds of compatible 7.62mm ammunition in forward areas by the Argentines.

Each marine normally carried two grenades, either L2A2 HE or No. 80 white phosphorous.

The standard section anti-tank weapon was the 66mm L1A1 (US M72A1) LAW, with a range of 300m; these light, one-shot, use-and-throw-away weapons were liberally issued, often two per man. At Troop (platoon) HQ level was 'Charlie G' — the

A GPMG team; the No. 2 wears the 'Cap, CW' and the 'Parka, CW'. To give a better grip he wears white cloth 'contact' gloves, with tiny black rubber studs all over the palms and fingers; originally acquired for RM small boat crews forced to handle metal in freezing conditions, these are now widely used with all kinds of equipment. The ammo box is chocolate brown with yellow stencils: The RM-pattern helmet in the foreground, and the GPMG bipod, are covered in hessian.

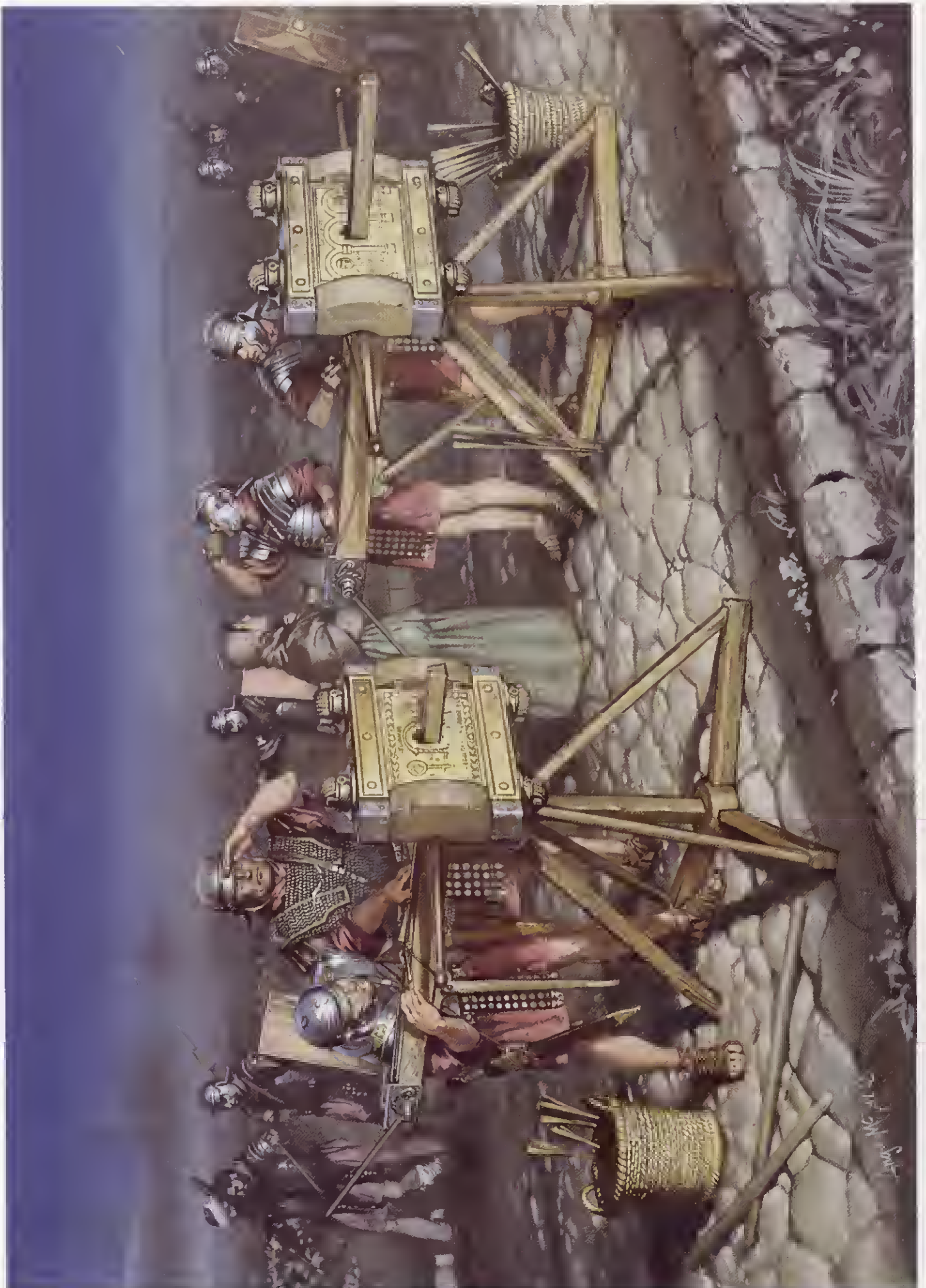
84mm L14A1 Carl Gustav recoilless MAW. This, together with the 66mm LAW, proved very successful at engaging fixed positions. Also used against fixed positions was the US M79 40mm grenade launcher, with a range of around 350m; this was devastatingly effective in the famous firefight between 3 Cdo. Bde. Mountain and Arctic Warfare Cadre and Argentine Army Commandos at Top Malo House.

Each Commando has a Support Company including six 81mm mortars, and an Anti-Tank Troop armed with 14 wire-guided Milan missiles. **MI**

³The cumbersome, first-generation 'Individual Weapon Sight', outclassed by Argentine issue.

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ROMAN ARTILLERY (1)

PAUL HOLDER

Torsion artillery — artillery powered by the energy of twisted 'springs' of cord — was invented by the Greeks. There were two types: *euthytone* arrow-shooters, and *palintone* stone-throwers. (These terms refer to the 'straight' and 'angled' setting of the springs in the catapult frames.) The propulsive power was transmitted from the bundles of rope, manufactured from animal sinew or from hair, by means of bow arms embedded in the spring bundles. Once the Romans came into contact with the Greeks of southern Italy, they adopted these machines, and used them widely for centuries afterwards. There has been a good deal of controversy over the exact terms used by the Romans for different types of artillery. Here we shall follow the initial convention of referring to arrow-shooters as catapults or 'scorpions', and to stone-throwers as ballistas.

The earliest testimony for Roman use dates from the First Punic War of 264–241 BC. Thereafter, during the Republic, the Romans used artillery drawn from three sources: machines requisitioned from Greek or Hellenised cities; captured weapons; and weapons they manufactured themselves. The main methods were requisition or capture, since there was no large, officially regulated arsenal at Rome or elsewhere until the time of Augustus. This led to problems when the Roman army was faced by the siege of a

well-fortified city; for instance Sulla, at the beginning of his siege of the Peiraeus in 87 BC, had no artillery at all, and obtained some from Thebes, before setting up workshops of his own at Eleusis and Megara to make all kinds of siege equipment.

By the time of Julius Caesar the legions had small permanent artillery contingents; but for any large-scale operations, more had to be requisitioned or made. After the establishment of the professional standing army under Augustus each legion had a

large artillery allocation. Vegetius, writing in the late 4th century AD, says that the 'antiqua legio' was allotted one arrow-shooter per century and one stone-thrower per cohort. This legion, apparently 3rd century in date, had 55 centuries; but there is no reason to doubt that each Augustan legion had 60 catapults. As corroboration, the three legions with Vespasian at the opening of the Jewish War (AD 66–70) fielded 160 weapons for the siege of Jotapata. (Auxiliary units do not appear to have been given artillery until the 3rd century.)

Vegetius allots one *contubernium* of 11 men to each 'centurial' weapon. In early Imperial times a *contubernium* had eight men; only two men were needed to crew a catapult in action, but the others would be required to manhandle the machine when setting it up, or breaking it down for the march. The whole squad were trained to use the weapon, as papyri reveal. The *ballistarius* listed among the legionaries who were exempted from fatigues — a title rarely attested — was the artificer responsible for the construction and repair of artillery.

CONSTRUCTION and USE

What a catapult actually looked like is a question for which we must rely on ancient literary sources. Vitruvius, who had been artillery adviser to Julius and Augustus in the later 1st century BC, left a technical description of weapons of his day based upon Hellenistic developments. The key factor in determining the size of a catapult was the inner diameter of the metal 'washer' which held each end of the torsion spring; every other component was made in either multiples or fractions of this figure; and the washer diameter was also one-ninth of the length of the arrow fired by the piece. Thus one design served for different 'calibres' (arrow-lengths), with only the proportion of the base needing adjustment.

Opposite:

A lull in the battle

Angus McBride's reconstruction shows a recorded incident during the deciding encounter of the civil war of AD 69, the second battle of Cremona or Bedriacum, on the night of 24/25 October. The forces of Aulus Vitellius, largely drawn from the Rhine legions, and those of Vespasian, commanded in this battle by Antonius Primus, met about 8.5 km east of Cremona. The Flavian legions had left their artillery behind; but the Vitellians had brought theirs to the field, even though they had marched 30 miles that day.

Initially the Vitellian artillery was ineffective; it was spread among the legions, and trees and cultivated vineyards interfered with its field of fire. Consequently the artillery was massed together on the roadbed of the Via Postumia, where it ran at an angle through the Vitellian front line; and proceeded to lay down a very effective barrage on the Flavian army opposite them across open ground just to the south of the road. But at about 9.40 p.m. the moon rose in the south-east, and shone very brightly in the faces of the Vitellian weapons crews, spoiling their aim and causing them to underestimate range. Fire slackened, and the Vitellians took the chance to refresh themselves from rations brought out to them from Cremona by local women.

The two catapults depicted are reconstructions of the remains found near Cremona. The nearer weapon is a 3-span catapult belonging to Legio IV Macedonica, the other a 3½-span weapon attributed to Legio XVI, on the basis of the inscribed bronze shields. The *ballistarius* (artillery artificer) is watching for further Flavian infiltrators: Tacitus (*Historiae*, iii, 23) tells us that men disguising themselves with discarded Vitellian shields had already reached and disabled a ballista. We reconstruct the costume and armour of these legionaries from standard sources; details are entirely speculative.

Left:

Identified when it was first discovered in 1887 as part of a legionary pay chest, this thin bronze plate, measuring 31.5 cm by 22 cm, was later proved — by the other bronze scrap discovered with it — to be the shield from the front of a 3-span catapult. Note the small aperture for the slider and arrow. This plate was made for Legio IV Macedonica in AD 45 (see immediately above aperture, 'LEG IIII MAC') and was lost at the second battle of Cremona 24 years later — see Angus McBride's colour painting opposite. The legion's badges on each side of the aperture are a leaping bull (left) and a Capricorn, presented here as standards, on shafts with pointed ferrules and conventional down-turned handles. The inscription dates the plate by naming the consuls in the year of its manufacture.



The springs consisted of bundles or stretched skeins of rope made from an elastic material. Neither the Greeks nor the Romans ever found an ideal material; the best available was animal sinew, and animal hair the next best. It is not known what sinew was used, but it could well have been the Achilles tendon of the ox, which is some 20cm long and has a very high energy-storing capacity. It has not proved possible to recreate a rope made from this material which will not 'creep' under considerable tension. E. Schramm, in his catapult reconstructions early this century, used horsehair successfully. Other, more recent reconstructions have used modern materials such as rubber bands and nylon rope.

Once the frame had been made and the washers fitted at top and bottom, as much rope as possible was threaded back and forth between them to make the spring. The rope chosen would be one-sixth of the washer diameter, but was then stretched by a mechanical device during threading to reduce this diameter by one third. As the rope was inserted and stretched a pair of callipers, set to the required diameter, were used to check that the correct tension had been applied to each length. When no more rope could possibly be inserted the loose end was pushed into the middle of the bundle and

*A reconstruction of the Ampurias catapult; made in 1916 by E. Schramm, based upon the remains found in an arsenal near the south gate at Ampurias in conjunction with the surviving text by Vitruvius, this is the most authentic of modern reconstructions. It is housed in the Saalburg Roman fort museum in the Federal Republic of Germany, and is still in working order. Note the extensive iron sheathing over the wooden frame members, covering the inner as well as the outer faces of the 'cheeks', and the outer thirds of the top and bottom surfaces. A detailed colour painting, with cutaway features, was published in Peter Connolly's *The Roman Army* (Macdonald Educational, 1975). Note that the case fixes between, and the slider moves between, two vertical wooden 'planks' or stanchions in the centre of the frame. (D. Baatz)*

Table 1: Catapult washer finds

Place & date	Washer diameter	Arrow length	Intended 'calibre'
Ampurias, Spain (mid-2nd cent. BC)	7.9cm	71cm	3-span (G)
Mahdia I, Tunisia (first half 1st cent. BC)	9.5cm	85cm	2-cubit (G) = 4-span
Mahdia II	7.2cm	65cm	3-span (G)
Mahdia III	4.5cm	41cm	1-cubit (G) = 2-span
Cremona I, Italy (AD 45)	7.4cm	67cm	3-span (R)
Cremona II (AD 56)	8.8cm	79cm	3½-span (R)
Bath, England	c.4cm	36cm	1½-span (R)

Ancient standards of measurement:

(G) = Greek span = 23.1cm

(R) = Roman span = 22.2cm

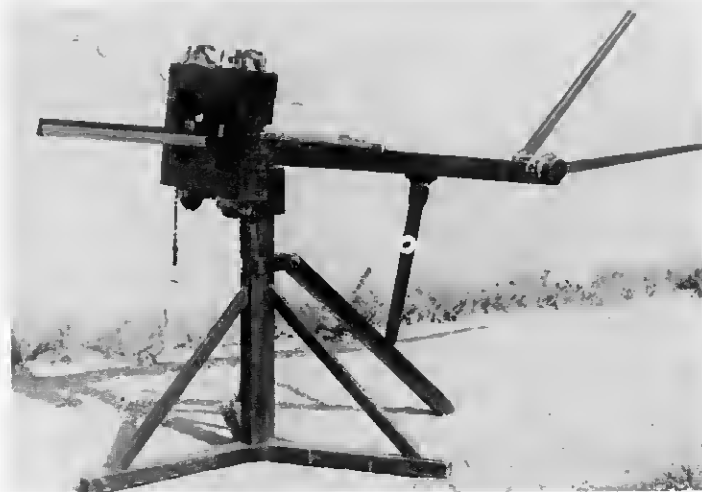
Note also: 1 dactyl = 19.3mm = 0.76in.

1 span(G) = 12 dactyls

1 cubit = 24 dactyls = 462.4mm = 18.21in.

Table 2: Metal field frame finds

Place & date	Weight	External height	Ring diameter	Type
Lyons, France (destroyed AD 197)	4850g	32.5cm	7.5cm (washer diam.)	Carroballista
Orsova, Romania (destroyed late 4th cent. AD)	8000g (not de-rusted)	36cm	7.9cm	Carroballista
Gornea I, Romania (destroyed late 4th cent. AD)	331g	13.3cm (damaged)	5.4cm	Manuballista
Gornea II	426g	14.4cm	5.9cm	Manuballista
Gornea III	447g	14.6cm	5.4cm	Manuballista



trapped against one of the tightening levers which ran across the end of the washers. The rope in the second spring had to be tensioned to the same degree as in the first, to ensure that the arrow flew straight and true. Vitruvius believed that an artilleryman should have a musical ear, and recommended testing the tension by plucking each strand and comparing the notes emitted.

The frame, complete with springs, was then attached to the case or stock, and the bow arms and string fitted. Stock and frame were finally mounted on a base stand at the point of balance by a universal joint, allowing elevation, traverse, and easy, counterbalanced aiming by one man. The weapon was now ready for use.

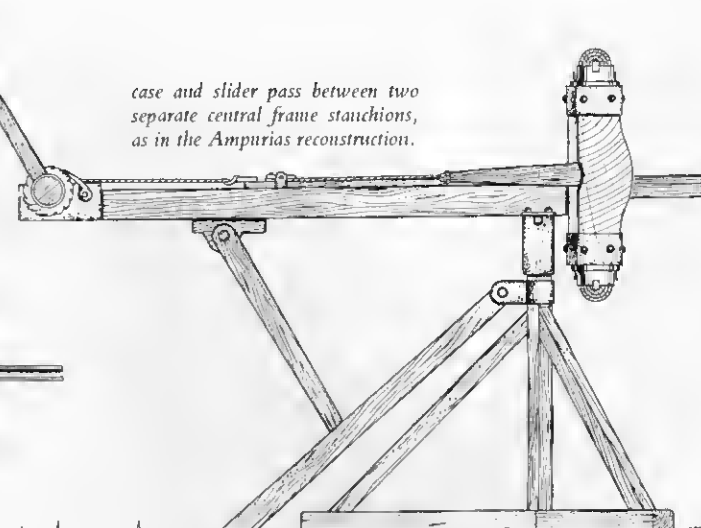
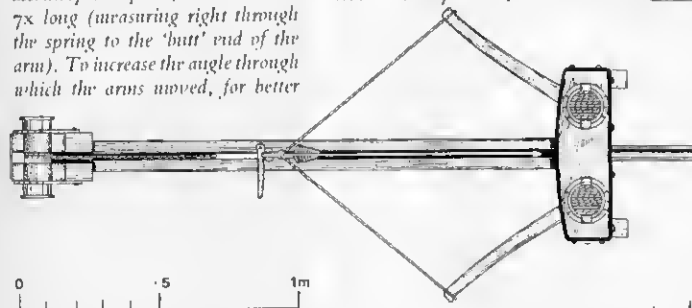
The slider, which moved up and down the case in a track, was pushed forward until the bowstring could be engaged with a trigger-and-claw device fixed at the rear of the slider. The windlass at the rear of the case was then used to wind back the slider and string against the tension of the arms; and was secured with a ratchet in the rear, cocked position. An arrow was placed in the groove on top of the slider, in contact with the string. Tripping the trigger released the string from the claw, and the arrow was propelled up the slider and out the aperture in the middle of the frame.

Vitruvius' description does not, however, explain how the washers were held in place, or how the tightening levers worked. The answers have only been supplied by archaeological finds of these metal components. The remains first recognised as catapult parts were found at Ampurias in Spain. This discovery showed that Vitruvius had omitted to explain that each washer, and its counterplate fixed into the horizontal members of the frame, should be pierced with holes round the rim, through which two retaining pins were pushed to stop the spring tension relaxing. These holes also allowed the

A 'scorpion', after Vitruvius — we base our drawing largely on Schramm's reconstruction of a two-cubit (36-in. arrow) weapon. Using the base measurement 'x' = inner diameter of spring washer, Vitruvius gives us a case length of 19x, a slider length of 16x, a frame assembly 6x square, and bow arms 7x long (measuring right through the spring to the 'butt' end of the arm). To increase the angle through which the arms moved, for better

performance, the arms were given a curvature of an arc of a circle of radius 8x. Where the front of the frame was armoured, as in the Cremona finds, the aperture for the arrow was only about $\frac{1}{2}$ x wide. The

case and slider pass between two separate central frame stanchions, as in the Ampurias reconstruction.



tightening levers — held rigidly in recesses in the edge of the washer by the tension of the spring — to be turned $7\frac{1}{2}^\circ$ at a time, to retension the spring according to exact adjustments if it slackened in use. In recent years more catapult washers have been recognised by D. Baatz; they show variations in this method of tensioning, and their differing diameters reveal some of the catapult 'calibres' used (see Table 1).

The finds from the Mahdia shipwreck off Tunisia demonstrate another variation: the smaller washers have teeth, like cog wheels. Comparison with Hellenistic artillery washers found at Ephrya, Macedonia shows that these were an attempted innovation for tightening the springs: the counterplates would also have had teeth, thus obviating the need for retaining pins.

RANGE, ACCURACY and TACTICS

The variety of calibres worked out from these washer diameters shows that the '3-span' catapult — the weapon taking an arrow measuring 3 spans, or 27.16in. (69cm) — was the most popular; and this is confirmed by the literary sources. The longest shot recorded in ancient times — 630m — was made by one of these weapons. To see if such a figure is valid, a number of experiments have been made with modern reconstructions. The

most complete were carried out by E. Schramm between 1904 and 1918. He used a reconstructed Vitruvian 2-cubit catapult; and a reconstruction of the Ampurias weapon (see accompanying photograph). Using horsehair springs, the former achieved a range of 369.5m, and the Ampurias weapon 296m and 305m against the wind. In 1979 the Ampurias reconstruction was tested again, and achieved 285m — even though the springs were now 64 years old, and the machine had spent much of that time in an open hall.

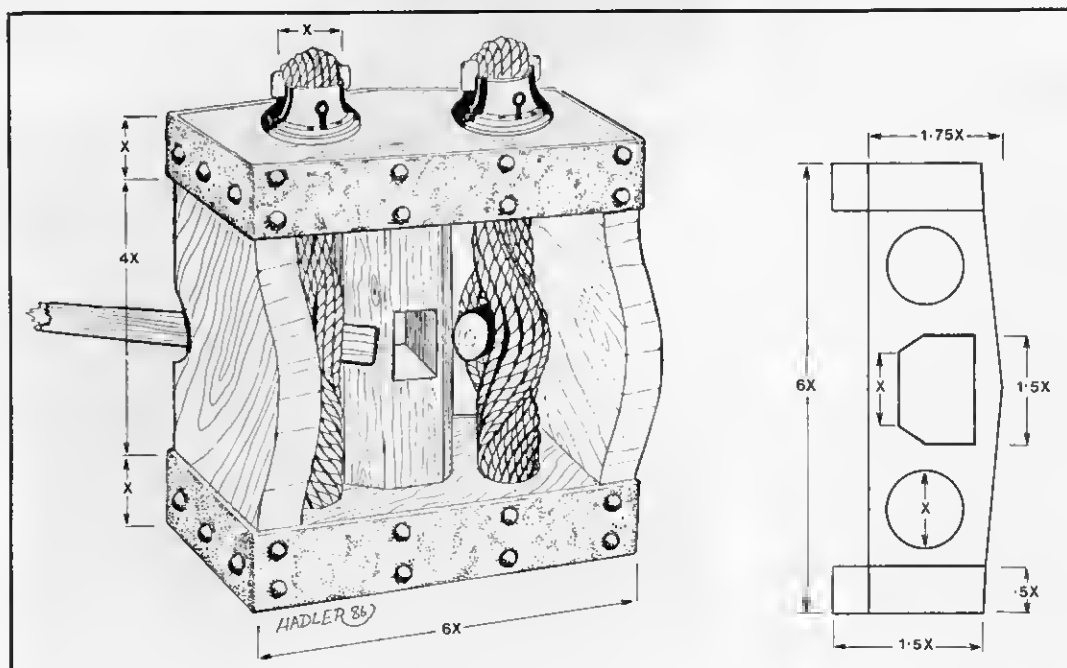
While these experiments have shown that artillery could shoot considerable distances, the Romans were probably content to use cata-

pults over ranges of c.50–200m in battle. The nature of warfare had changed by the early years of the Empire: few of Rome's enemies possessed artillery, nor did they have well-fortified cities requiring sophisticated siege tactics. With 60 catapults to each legion, this essentially anti-personnel artillery was normally used to lay down a barrage in battle, or to carry out a 'softening-up' bombardment prior to an assault.

Literature reveals that such artillery operations were usually carried out in conjunction with archers and slingers. In AD 16, during his operations in Free Germany, Germanicus used catapults and slingers to clear the enemy from the frontier earthwork

which separated the Cherusci and Angrivarii. Corbulo delivered a lightning assault on the Armenian fortress of Volandum in AD 58 under cover of an artillery bombardment, and took the place in under four hours. During the siege of Jotapata in AD 67 Vespasian opened a synchronised bombardment by

General arrangement drawing of the frame and springs of a 1st century catapult, and plan view of horizontal frame members: after Marsden's interpretations of Vitruvius. In this interpretation the central pair of vertical stanchions are now replaced by a single shaped, pierced block. The end of the case was fixed into its rear face, and the slider passed through the hole. (Again, the conventional base measurement is 'x' = inner diameter of spring washer.)



his artillery supported by archers and slingers to clear the walls of Jewish defenders so that he could send in an assault.

Excavations in Britain have produced vivid evidence of this 'softening-up' process. During his operations as legate of Legio II Augusta in south-west England after the invasion of AD 43, Vespasian captured 20 hill forts including those now known as Hod Hill and Maiden Castle. Mortimer Wheeler's excavations at Maiden Castle revealed a war cemetery where the victims of the assault were buried. One body had a neat, square hole in the skull which had probably been caused by the standard catapult arrowhead (although a *pilum* head is similarly shaped). Another still had an arrowhead lodged in the spine, from the front (see photograph); this arrowhead was more crudely made, with a flat-pointed head. Among the Hod Hill finds were many similar ones which had been hastily made, perhaps to make good campaign shortages.

The intensity of the Hod Hill bombardment is shown by the 138 arrowheads found there, of the normal square section with a tapering point.

The remains of the Ampurias catapult; we are looking down from above the washers, which still have their tightening levers corroded into the recesses in the rims. Originally interpreted as an ammunition carriage when discovered in 1912, these remains represent the extensive metal fittings of a 3-span catapult. Note that the fairly massive iron bolts pass right through the now-vanished wooden frame, linking the iron sheathing on either face. The dimensions of this weapon correspond closely to Vitruvius' description, although the machine was 'under-sprung' — i.e. its frame was too squat; but this could be compensated for by fitting longer bow arms. Note the three holes drilled in each side of the rims of the washers. Each counterplate — the corresponding fixed plate let into the frame beneath the washer — had 16 regularly spaced holes round the rim. The tightening lever could thus be turned $7\frac{1}{2}^\circ$ at a time to re-tension a slackened spring, simply by removing the retaining pins and turning the washer with a tool; and each spring could be tensioned equally.

The vast majority had a socket diameter of about 1cm. This measurement had to be closely controlled for the arrow to fit snugly in the groove of the slider and to fly true. There was considerable variation in head lengths between 6cm and 9.5cm in the 49 complete examples found, although there were clusters at 6.9cm and 8.1cm. If the total length of the arrow was approximately ten times as large, it would indicate catapults of two calibres corresponding to the 3-span and $3\frac{1}{2}$ -span weapons found at Cremona. But such a variety was perhaps acceptable for a single calibre, with different weight arrows for different tasks. (There is documentary evidence that the Romans well understood the value of dropping arrows into an elongated 'beaten zone'.)

When an assault failed and a siege had to be undertaken, artillery was used for covering fire. As catapults — arrow-shooters — had no appreciable recoil, they could be mounted in siege towers to sweep the enemy's ramparts. At the siege of Marseilles in 49 BC the Caesarian forces built a six-storey tower 20m from the wall, in which they mounted catapults whose fire drove the defenders back and enabled the Romans to move siege-machines up to the wall. Catapults mounted in towers were also used in field operations when an increased range was required. To repulse Parthian horse-archers while constructing a bridge over the Euphrates in AD 62, Corbulo moored boats together and built turrets on them; from these elevated platforms his catapults

out-ranged the Parthian bows. On his first visit to Britain in 56 BC Caesar ran his warships ashore, so that his artillery could drive the defenders from the beach, allowing his infantry to land.

Specific targets were also picked out for concentrated fire. At Hod Hill excavation revealed a cluster of 11 catapult arrowheads around a chieftain's hut 110m within the rampart. Josephus records that during the siege of Jotapata, where he commanded the garrison, he rationed water supplies and issued them at only one place in the town. Seeing this, the Romans concentrated their catapult fire on the water-point, and caused heavy casualties.

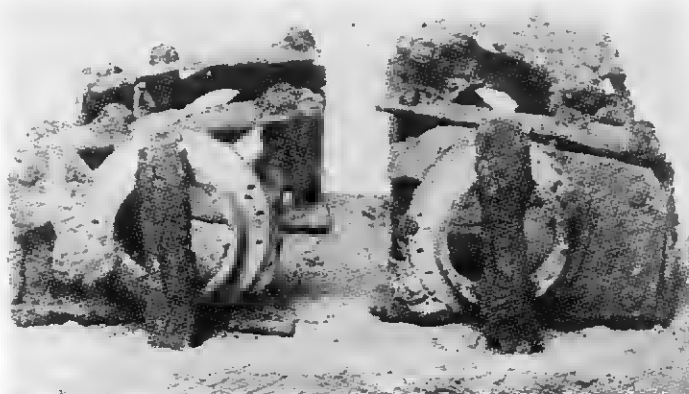
Although the Romans tended to use their artillery *en masse*, individual artillerymen could still be deadly accurate. During the siege of Avaricum in 52 BC a Gaul taking part in a sally by the defenders was spotted throwing tallow into the flames consuming Caesar's siege-terrace. A catapult arrow pierced his right side, and killed him. Another Gaul took his place, only to suffer the same fate; then a third; and a fourth. The psychological effect of an arrow striking home is demonstrated by an incident in the African war of 46 BC. A group of cavalry were approaching the gates of a town in close formation, when an arrow from a 'scorpion' struck the decurion in command, and pinned him to the ground: his men fled in terror.

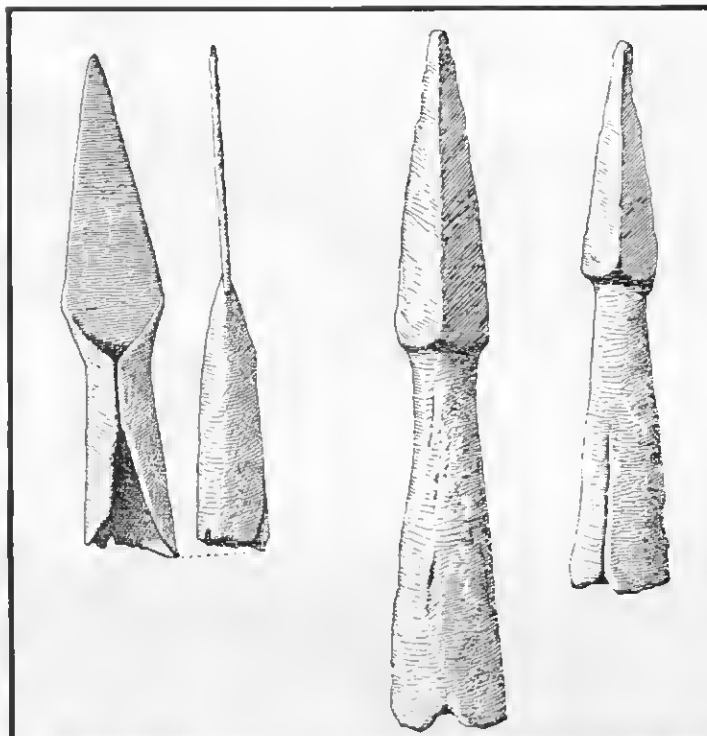
The catapult of early Imperial times was intended for field use by an army

accustomed to offensive, rather than defensive operations. Provision was made for siting catapults in temporary camps in case of attack; but not, at this date, in permanent fortresses. This is clearly demonstrated by the problems experienced by the defenders of the double legionary fortress at Vetera when attacked by Civilis' rebels in AD 69.

The main defect of these catapults was their lack of mobility. They were carried in wagons in two sections: the frame and case, and the stand. Placed behind the legionary cavalry in the line of march, they were inoperable until they reached their battle positions and were assembled and set up. In his retreat from Jerusalem in AD 66 Cestius Gallus was forced to abandon his artillery in order to allow his men to escape. Another drawback — notwithstanding the anecdotes of marksmanship, above — must have been the general difficulty of aiming. There was only a small aperture in the central frame stanchions or shield for the arrow to pass through; the operator must have had to peer round the edge of the frame to get his general target direction before lining up exactly by looking along the arrow. It is not surprising that a replacement was sought.

The last representation of a 'scorpion' is on the tombstone of C. Vedennius Modestus, set up in c. AD 100; the motif is explained by his service — after his allotted legionary service he stayed on as an engineer in the arsenal at Rome, probably with responsibility for artillery. However, the spiral frieze of Trajan's Column, depicting the First Dacian War of AD 101–102, shows a totally different kind of arrow-shooter. Development of these more mobile metal-framed weapons, with an arched strut at the front, took place during the Flavian dynasty (AD 69–96). They were called *carroballistae* and *manuballistae*: the generic name 'ballista' now reflecting that their springs were of the palintone variety.





Left:

A victim: adult male, aged 20-30 years, height 5 ft 5½ in.; cause of death — catapult arrowhead in twelfth thoracic vertebra, entering the body from the front below the heart; place and time of death — Maiden Castle, Dorset, England, c. AD 44. The arrowhead is one of the flat triangular examples, apparently hastily made for the southern British campaign of Legio II Augusta. Examples of the normal square-sectioned tapering arrowhead were also found at Maiden Castle. Those shown on the right are reproduced actual size. (Photo: Society of Antiquaries of London)

Below left:

The *carroballista* in action, c. AD 101. Occupying elevated ground, we see two weapons, each drawn by a pair of mules. Each catapult is constructed as part of a box-like cart, using a typical stand. The prominent arched strut identifies the *carroballista*; and each spring is housed for protection in a bronze cylinder. Each weapon has two crewmen, one loading from the left side, one winding the slider back. The catapults are elevated to clear the mule teams and the legionaries in front. (From C. Cichorius, *Die Reliefs der Trajanssäule*)



CARROBALLISTA and MANUBALLISTA

In recent years understanding of these weapons has advanced significantly, largely because of the efforts of E. W. Marsden in interpreting a fragmentary technical treatise couched in difficult Greek, which goes by the name of 'Heron's Cheiromballistra'. By comparison with the reliefs on Trajan's Column, Marsden demonstrated that an arrow-shooting weapon was being described, and he produced a working reconstruction.

However, recent archaeological finds of the metal

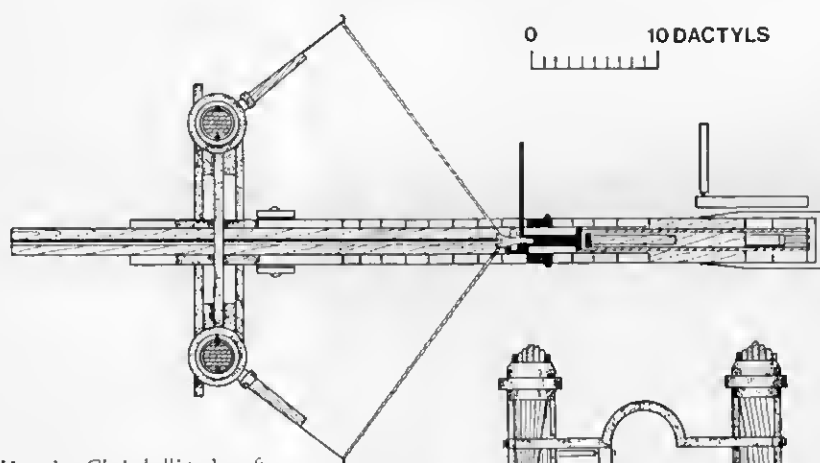
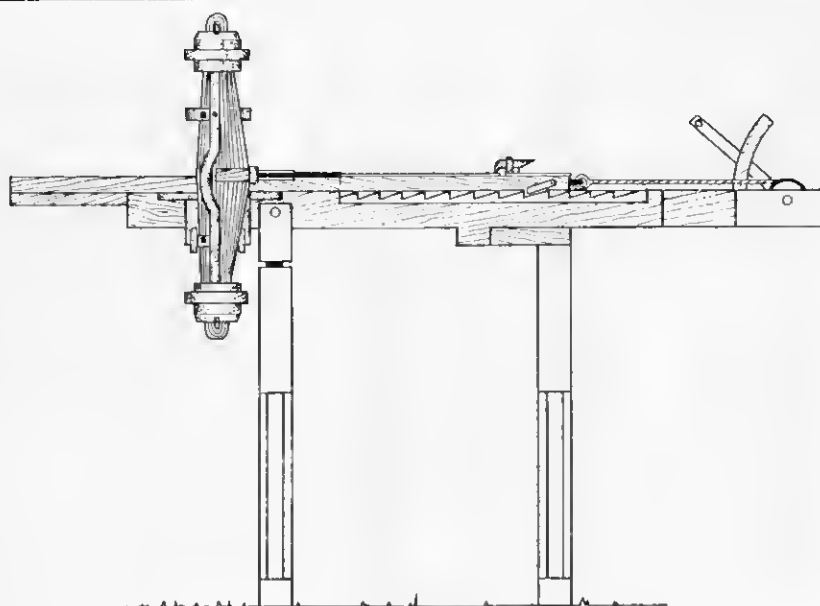
field frames of such machines have shown that his reconstruction — which we nevertheless illustrate here — was a marriage of two different weapons. The Cheiromballistra text is a Byzantine description of a *manuballista* with springs only c. 19.4 cm high (see accompanying drawing of Dietwulf Baatz's later reconstruction), as is shown by the Gornea finds. In his reconstruction Marsden followed different text readings, to produce a larger and more powerful weapon which needed a windlass to cock it. The Orsova and Lyons finds are *carroballista* parts, how-

ever. The similarities in spring diameters and heights between these and the Ampurias and Cremona I catapult dimensions indicate that they were up-dated versions of 3-span machines, and would have been of similar power.

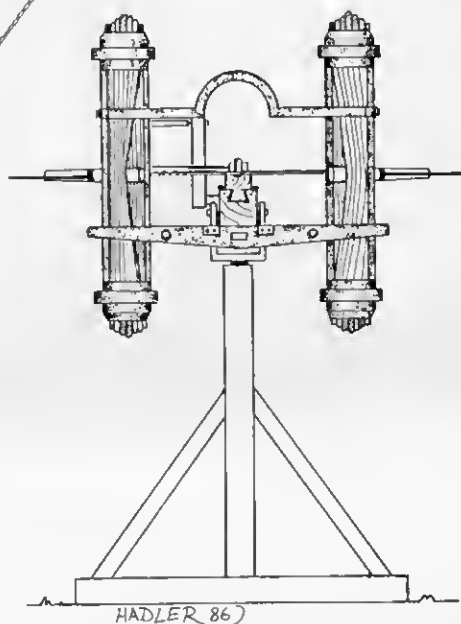
The advantages of these weapons included their metal frames, which were more shock-resistant and not subject to humidity. Spring replacement was also much easier: complete field frames could be inserted. Bronze cylinders enclosed the springs, protecting them from rain and damage. The wide, rela-

tively low frames, coupled with the arched strut, made aiming much easier. Instead of arrows, *carroballistae* fired darts or bolts about 48 cm long, like those found at Dura Europus. The *carroballista* had a two-man crew, and was mounted on a stand or in a two-wheeled cart, with a windlass for cocking the action; the *manuballista* was a one-man weapon of similar but smaller design, designed to be hand-operated — although some kind of stand would also have been necessary. The battle range of these weapons, too, was over c. 50-200 metres.

Initially, the tactical use of artillery did not change. Arrian's plan of battle against the Alans in c. AD 135 was apparently a standard formation. The army was to be drawn up in a crescent with the wings advancing towards the enemy. Artillery was positioned on the flanks and behind the main body of infantry. When the enemy approached the artillery would lay down a heavy barrage — shooting over the legionaries' heads, and supported by archers and other



'Heron's Cheiroballistra', after E. W. Marsden's reconstruction. As explained in this article, it is now believed that this reconstruction was mistakenly based upon a misreading of an obscure text, producing a hybrid of two weapons of very different sizes. Marsden considered that the windlass, ratchet, pawls, universal joint and stand were all missing from the original text, and designed and incorporated substitutes: these are shown in black outline in this drawing. The remaining components are as described in the original text, except for two significant amendments: the height of the metal field frame is 20 dactyls, and the spring diameter 2½ dactyls. Marsden interpreted the crescent-shaped wooden fitment at the rear as a hand-grip.



missilemen — which it was hoped the enemy would not penetrate. According to Vegetius the *'antiqua legio'* was generally formed in six lines. Behind the first came the *tragularii*, operating *manuballistae* and *arcuballistae*¹. In the fifth line were some *carroballistae* and more *manuballistae*; and right at the back were the larger *carroballistae*.

In the reforms of Diocletian and Constantine the legions lost their artillery; instead, a legion of *ballistarii* was permanently attached to the field army by Constantine. (This, and subsequent developments, are discussed in Part 2 of this article.) Note that the distinction between arrow- and stone-artillery earlier indicated by the term *'ballista'* no

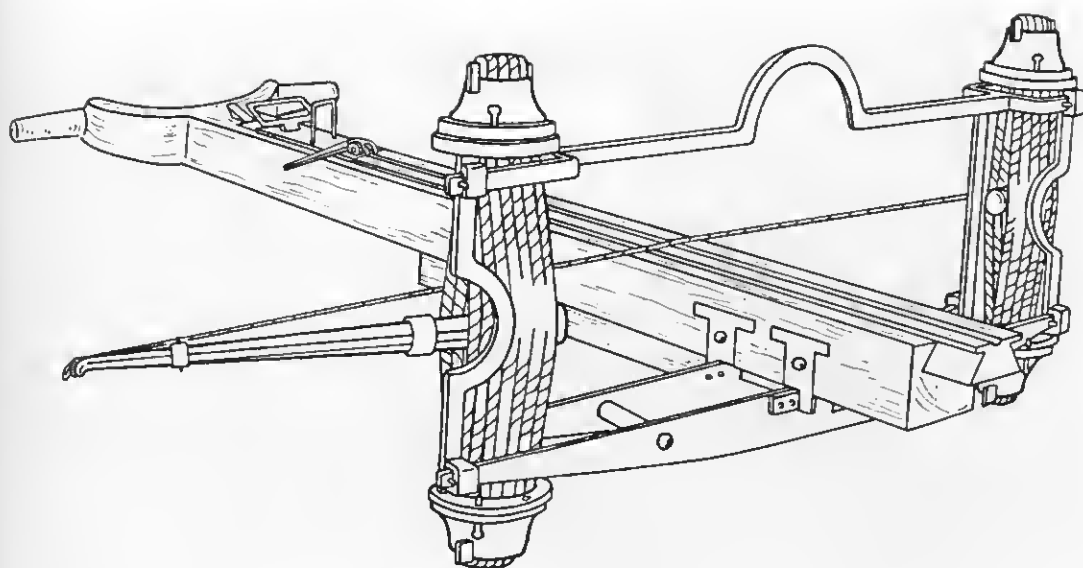
longer applied. From this time onward a *'ballista'* meant an arrow-shooter; stone-throwers were now called *'onagers'*.

During the 4th century offensive and defensive siege warfare again became an important aspect of the rôle of artillery, especially on the eastern frontier, where the Sassanian Persians were well versed in siege techniques.

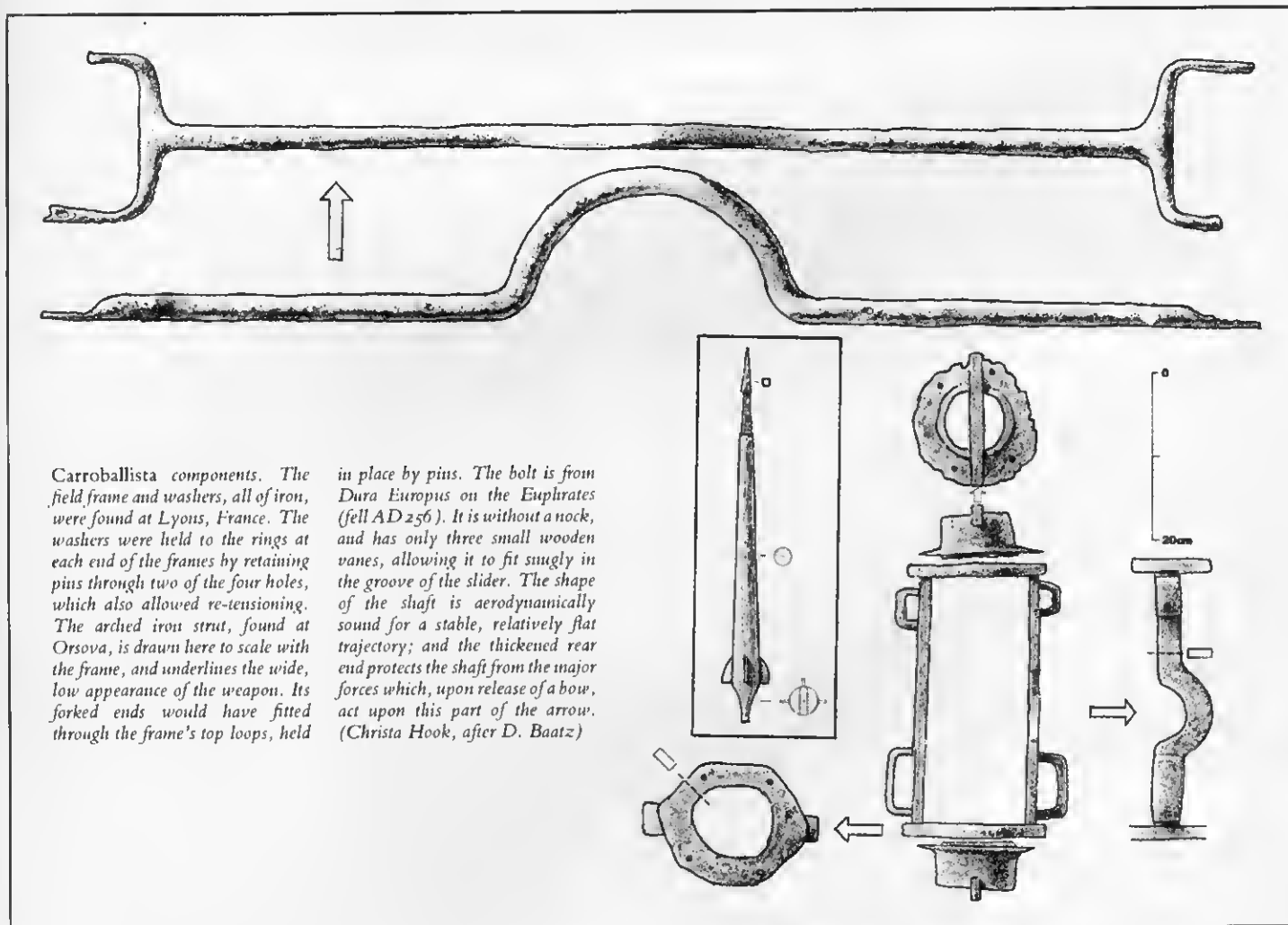
Ammianus provides vivid descriptions of the use of *ballistas* in bombarding towns to keep the defenders' heads down; but it is his eyewitness account of the defence of Amida in AD 359 which gives the best examples of the resourcefulness of defenders in using artillery. When the Persians attempted one assault they were so closely packed that they presented an easy target, and were forced to adopt open order to reduce the number of casualties. Even *cataphracts* suffered badly, and had to retire. In an earlier incident the Persians had managed to capture one of the wall towers, and some 70 attackers poured across. The defenders moved up five light *ballistas* and opened a rapid fire, some bolts piercing two enemies at a time. Some Persians jumped over the parapet to their deaths, panicked by the noise of the artillery. This fear was used to good effect to cover the retreat of a force of the defenders after a sortie: unloaded machines were fired, and the enemy, expecting a shower of bolts, kept back.

With the increase in defensive artillery came the introduction of large, static arrow-shooters. The nearest to a technical description of such a weapon is provided by the anonymous author of *'De rebus bellicis'*, written in c. AD 368/9. One of the machines the author describes is the *ballista fulminalis* or 'thunderbolt catapult'. He states that in practice the weapon was superior to others, and could shoot a missile across the Danube. Unfortunately neither his description, nor the accompanying illustration reveal exactly how it worked. The arched strut suggests that it should have been a torsion weapon of the *carroballista* type, but no springs are visible.

¹The *arcuballista* is recorded by only two ancient writers: Vegetius, and the late 4th-century Latin translator of Josephus' *Jewish War*. Both reflect current usage of the term, and Vegetius' familiarity with the artillery terminology of his day shows that the weapon was not the same as the *manuballista* but similar in use. *Arcuballista* can only mean a catapult shaped like a bow. Hence this must have been a non-torsion crossbow, following in the tradition of the Greek 'belly-bow' and foreshadowing the medieval arbalest.



'Heron's Cheiromballistra' reconstructed by Dietwulf Baatz. This contrasting reconstruction of a much smaller, hand-operated weapon was produced in the light of the field frame finds at Gornea in Romania. The frame height is reduced to 10½ dactyls; however, the inner diameter of the washers on the Gornea finds is equivalent to 3 dactyls, not the 1½ dactyls of the ancient text. The rectangular handle behind the trigger is interpreted as being for pulling the slider back manually; and the crescent as being a 'withdrawal' rest, for bracing against the body when cocking the weapon, as in a 'belly-bow'. The bottom loops on these vertical frame stanchions are much larger than allowed for in the ancient text, and suggest that the Gornea weapons had timber traverses across the bottom rather than iron struts.



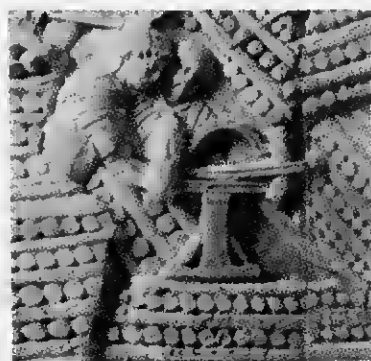
Carroballista components. The field frame and washers, all of iron, were found at Lyons, France. The washers were held to the rings at each end of the frames by retaining pins through two of the four holes, which also allowed re-tensioning. The arched iron strut, found at Orsova, is drawn here to scale with the frame, and underlines the wide, low appearance of the weapon. Its forked ends would have fitted through the frame's top loops, held

in place by pins. The bolt is from Dura Europus on the Euphrates (fell AD 256). It is without a nock, and has only three small wooden vanes, allowing it to fit snugly in the groove of the slider. The shape of the shaft is aerodynamically sound for a stable, relatively flat trajectory; and the thickened rear end protects the shaft from the major forces which, upon release of a bow, act upon this part of the arrow. (Christa Hook, after D. Baatz)

In recent experiments for a reconstruction, M. Hassall suggested that the bowstring itself could have been made of sinew rope, and that the machine could have worked like a modern schoolboy's catapult. With a scale model, he had some success with the ligament from a horse's neck, which is almost pure elastin. If this theory is correct, then it

suggests that the Romans looked for a simple alternative to the costly and hard-to-maintain twin-spring torsion weapons as a lack of skilled manpower increasingly made itself felt. [M]

To be continued: Part 2 will discuss stone-throwing machines.



A further view of the carroballista in action, from the Trajan's Column frieze commemorating the Dacian wars of c. AD 101. Instead of a cart, this weapon is mounted on a conventional stand in a prepared position on a log platform — associated with log assault ramps — to give it increased elevation for more effective fire against Dacian fortifications. (From C. Cichorius, *Die Reliefs der Trajanssäule*)

First Special Service Force, 1942-44 (2)

JOHN R. DAWSON and
DON KUTEMEIER

Part 1 of this article described the formation and training of the US/Canadian First Special Service Force, under command of Col. Robert T. Frederick, in the USA between July 1942 and spring 1943; and illustrated the Force's service dress and insignia. In this concluding part the authors describe the FSSF's combat operations, and illustrate its special combat clothing and equipment.

The Force's training, and a staging area in Vermont, had suggested that it would be committed to the European theatre; but in the event its first task was to spearhead the invasion of Kiska in the Aleutian Islands in the North Pacific for Gen. Corlett's Amphibious Task Force 9. Brought over-strength to compensate for expected losses, the FSSF sailed from San Francisco with 2,460 officers and men¹.

Two of the three regiments paddled ashore on 15 August 1943, while the third waited at the airstrip on Amchitka to parachute in wherever needed. The call never came: the Japanese had evacuated the 5,000-strong garrison of Kiska three days earlier under cover of fog. The island had barely been secured when a

signal from Adm. Nimitz informed Col. Frederick: 'Highest authority directs that you return Special Service Force to San Francisco without delay.'

ON TO ITALY

Three months later, in Italy, the Force faced a more certain bloodletting. The Germans were giving ground grudgingly toward the Gustav Line — the Rapido and Garigliano Rivers and the Cassino massif; and screening it was the Winter Line, which Kesselring hoped would keep the Allies occupied until spring. Allied infantry and armour ground bloodily along Highway 6 through the Mignano Gap, under observation from the jaws of jagged peaks which menaced their route from either side.

With its mutually supporting sisters, Mt. Camino and La Remetania, Monte La Difensa (3,120 ft.) dominated the southern jaw. Prior to Operation 'Raincoat' successive attacks by one British and two US divisions had faltered on its bare, windswept slopes. Now it was the turn of the FSSF.

A two-night climb brought the Force to the 'weak' spot on La Difensa — 200-ft. cliffs considered unscalable by the Germans. One battalion, lightly equipped for the knife-and-grenade work of the initial assault, went up the ropes first. A second, heavier on machine guns and mortars and carrying 90 lb.-plus per man, followed. The attack went in at dawn on 3 December 1943.

The most optimistic estimate by US II Corps had been three days to take the saucer-shaped crest; the FSSF did it in two hours. Mt. Camino also fell to a simultaneous assault by the British 56th Div., but was to change hands repeatedly for three days. US Fifth Army had covered the operation with 925 guns, among them 8-in. howitzers used for the first

time in sustained combat. The bombardment, split about equally between Mt. Camino and La Difensa, cut off the German defenders in their sangars; but the German artillery replied with all the 'heavies', 88s, Nebelwerfers and mortars the ground could absorb. Though never dislodged, the Forcemen on La Difensa continued to take punishment from La Remetania and Camino and the saddles leading to them. The see-saw battle was fought in biting wind, icy rain, and clammy fog. Finally, late on 6 December, the FSSF cleared Remetania and the saddles leading to Mt. Camino, and the British secured the crest of the latter peak. The next two days were spent mopping up pockets of defenders and snipers. The whole Force was eventually committed: about two-thirds of the men to combat, and the rest, with the Service Bn., to risky and gruelling litter-bearing and supply-hauling, involving a six-hour scramble in each direction.

The Germans had put up their usual skilled and stubborn defence; although caught by surprise by the first cliff assault, they had held out to the last sniper. Nearly 80 had died on the first day alone. But the Force had also suffered considerable losses: 511 casualties during the six days' fighting, including 73 dead, nine missing, 313 wounded, and 116 exhaustion cases. Among them were many of the Force's toughest and most effective fighters. Far beyond the immediate comparison of casualties, however, was the shift in advantage which the capture of this vital observation point gave to the Allies.

While the Force rested after La Difensa, the war went on in the Gap. Battles raged around San Pietro, and the US 504th Parachute Inf. Regt. took the peak of Mt. Sammucro, chipping a tooth in the northern jaw of the Winter Line.

Still almost two battalions under strength, the Force was back in the front line in 11 days. Their new assignment

These two Forcemen at a tented camp in the mountains near Ft. Harrison, Montana, in 1943 are wearing second type mountain parkas — note the slanted, buttoned flaps of the chest pockets, which are of different configuration to those on the first and third type parkas. These men appear to be wearing one-piece olive drab herringbone twill coveralls under their parkas; these were normal wear during the Force's training period. (Courtesy Z. B. Teater)



¹Maj. Gen. Corlett's Task Force 9, 'Corlett's Long Knives', had its own shoulder patch, illustrated in Part 1, p. 23; contemporary photos exist which show it being worn by Force members together with and generally below the FSSF patch.

was to protect the right flank of a drive by infantry and armour down Highway 6 bringing Fifth Army up to the Gustav Line. The Force attacked on 24 December, and by Christmas night they had reached their planned jump-off point — minus 77 dead and wounded.

Winter had settled in with a vengeance; the olive groves on the lower slopes were rain-soaked and deep in mud, and on the higher features gales screamed over snowdrifts. Regiments shrank to provisional battalions; and men from the combat regiments joined the Service Bn. in mule-skinning and pack and litter work as the Force knifed deeper into the tangle of nameless hills.

On 5 January 1944 Task Force B was created, attaching an infantry regiment, artillery, an engineer and a medical company to the nucleus of the FSSF; but the fighting on the steeper heights still fell to the Force. A line of bunkers on Mt. Vischiataro resisted the first attack; but after Forcemens reached the crest of Mt. Majo, and held it through two days of counterattacks, Vischiataro also fell. On 14 January Task Force B was dissolved. Cassino's abbey frowned down on future battlefields; but the Force were waiting for trucks to take them to the rear. They would not require many: the Force had been reduced to 25% of their roster.

THE MUSSOLINI CANAL

Within two weeks the Force was in the Anzio Beachhead, taking over the right flank of the embattled VI Corps. Combat strength at embarkation stood at 68 officers and 1,165 enlisted men, some of them AWOL from hospital. They were still about two battalions short of establishment, and their 13 km of perimeter represented a quarter of the entire line — about 12 yards per man.

They were opposed by about the same number of Germans, but these increased to a mid-season total of more



A Forceman posing for a photo in 1944, wearing knitted jeep cap ('beanie'), M1943 field jacket, wool field trousers, and paratrooper jump boots. He carries an M1941 Johnson light machine gun, with bipod extended, but without a magazine.

The Johnson has a 20-round box magazine loading from the left, plus an internal magazine for another five rounds. It has several other ingenious features: it uses a combined recoil and blow-back system, single shots bring fired from a closed bolt and automatic fire from an open bolt, thus improving both single-shot accuracy, and cooling whirr on automatic. It is generally stated to have been a controversial weapon; but the Force loved it. One trick was to fire eight single shots and then to toss an empty Garand rifle clip among the rocks. Seventeen rounds of automatic fire remained available to greet the enemy who took a chance on rushing the 'reloading rifleman' betrayed by that well-known tinkling sound. (Courtesy C. W. Adams)



Left:

Members of a carrying party from the Force's Service Battalion earn their nickname of 'Freddie's Freighters' as they trudge up hard trails into the mountains around Monte Sanmichele, Italy, winter 1943-44. The terrain seen here is a reminder of the bleak landscape in which the FSSF fought most of its battles — and of the difficulties of resupply and casualty evacuation in a countryside where mules were the most sophisticated form of transport. This photo seems to have been taken in fairly good weather, however; the Force's battle on La Difensa, 3-8 December 1943, took place in wind, icy rain and clammy fog, on a bleak hilltop offering no shelter, and cost the FSSF many exhaustion and exposure casualties.

These men use plywood pack frames to carry rations, squad mess gear and blankets up the trail. They wear wool field trousers (apart from second right, who has the mountain pants); and double-buckle combat boots. (Courtesy Fred Aaron)

than 3,000: the Hermann Göring Division estimated the FSSF at a division in strength.

The Mussolini Canal ran the length of the Force's front. Before the FSSF took it over, the Germans had been in the habit of approaching it at will, grenading the defenders on the west bank. Force patrols went out on the first night after the takeover (2 February); and within a week the German outpost line had prudently withdrawn a mile or more.



Above
(Top centre) V-42 Commando fighting knife, type 2, and shvath. The shvath is a type 3, modified by cutting off the M1910 belt hanger loop.

(Left) First type mountain parka. Note the lack of wolf fur hood ruff, which with this model was attached to the separate liner; and the shape of the patch pockets set on the chest.

(Centre) Mountain pants — note the zippered front pockets, the most obvious identification feature.

(Right) Third type mountain parka, the most popular and widely used. Note wolf fur ruffs at hood and wrists; and greener shade of material.

Anzio was almost exclusively a night fighter's battle; several German attacks early in the siege, and a couple of later Force patrols, confirmed the folly of daytime movements. It was at Anzio that the Force earned the nickname 'Black Devils', from their habit of blacking

their faces before raids. Outposts, and the patrols that roughed them up, would both leave the main positions at dusk, returning before sunrise; the opposing lines were closer together during the night.

At first bridges and culverts were prime raiding targets, to interfere with enemy traffic; but later the emphasis shifted to enemy-held farmhouses and outbuildings. The Force's RS explosive packs were perfect for this type of fighting.

As spring approached raids in company strength became more common; and some battalion operations were mounted, occasionally accompanied by tanks. Some raids inflicted scores of casualties, even returning with a hundred or more prisoners. But the smaller, stealthier raids were just as unsettling for the enemy: the diary of a dead German officer noted

that 'We never hear these devils when they come'. To promote this edginess the Fifth Army's Psychological Warfare Dept. turned out red spearhead stickers with the motto 'Das Dicke Ende Kommt Noch!' — 'The worst is yet to come!' — which were left on walls, rifle butts, even the helmets or foreheads of enemy dead at the scene of a raid.

Few Forcemen were captured by the enemy, despite the fact that a German document recovered early in the battle offered ten days' leave to the first Germans to achieve such a capture.

In spite of the bitterness and intensity of the fighting, which some Anzio veterans compare with the World War I trenches, the FSSF managed to retain a certain flair, and a lighter touch than other units. When possible, they loaded their prisoners with eggs, chickens, potatoes, even

mattresses before sending them back to the rear. They planted gardens, brewed moonshine, and broke 'brancos'; one group even infiltrated a VI Corps wine cellar.

All told, Force losses at Anzio were light compared with those inflicted on the enemy; but the 384 dead, wounded and missing still represented nearly a third of the number who landed on 1 February, though additional personnel had come up subsequently. The Force's strength was steadily built up during the second half of their stint in the beachhead, initially by the addition of Ranger survivors of Cisterna. Later replacements brought the FSSF to full strength on 1 May, just before the breakout.

On 12 May 1944 the southern front began to roll; and at 05.00 hrs on 23 May the Force got back into the war of movement.



World War II 're-enactor' Mark McBride portraying a member of the FSSF; all clothing and equipment illustrated is of wartime origin. He wears the M1 steel helmet with liner; note that the parka hood was not made large enough to fit over this. His second type mountain parka is identifiable by the wolf fur ruff at the hood, but not at the wrists; by the buttoned flaps at wrist and throat; and — although hidden here by equipment — by much larger chest pockets than the other two types, closed with buttoned flaps. Note that the Force patch was not worn on the shoulder of the parka. The mountain pants are tucked into para-

trooper jump boots, and retained by an elastic 'stirrup'.

He is armed with the .30 cal. M1 Garand rifle; details of section armament in the FSSF are given in the first part of this article in 'MI' No. 1. On his M1923 webbing cartridge belt is a V-42 Commando fighting knife. On his back is the mountain rucksack with a tubular metal frame and webbing shoulder straps. The M1943 folding entrenching tool in its carrier is fixed to the side of the rucksack by a grommited flap and retaining strap. Under the large top flap of the rucksack is carried the M1943 mountain sleeping bag in its olive drab waterproof bag.



Above:

Three officers posing for a snapshot with a horse on the Mussolini Canal line in the Anzio beachhead, early 1944. They are identified as (left to right) Zapski, 1st Co., 3rd Regt.; Le Gault, 2nd Co., 3rd Regt.; and Wilson, 1st Co., 3rd Regt.; lieutenant's or captain's bars can be seen on their caps and helmet. Zapski, at left, wears an OD wool shirt and the mountain pants. Le Gault, centre, wears an M1943 field jacket with a Force shoulder patch, and wool trousers. Wilson wears a wool shirt with the officer's crossed arrow insignia on the left collar, mountain pants, and wool gloves. He has a German officer's brown leather belt supporting his pistol holster, which has a V-42 Commando knife tucked into or behind it. Just visible behind his left elbow is a German grave marked by a helmet on a rifle. (Courtesy Jess Latoz)

Above right:

Five members of the FSSF Service Bn. posing with a 2½-ton truck in Nice, France, in mid-November 1944, shortly before the disbandment of the Force. The variety of clothing displayed here includes herringbone twill coveralls, wool shirts, wool trousers, a wool sweater, an M1938 field jacket, jeep caps, M1943 field caps, and the garrison cap with tricolour cord piping. (Courtesy Z. B. Teater)



unyielding, and on two occasions counterattacks nearly recaptured Artena. At one point the FSSF retreated a few hundred yards to allow artillery to work over the German concentrations. Force demolition parties ranging behind enemy lines also found their objectives sealed off by men and firepower. In the end, Kesselring won the two days he needed to save X Army from encirclement.

The Force switched to II Corps during the last stages of the Artena battle. When the dust had settled they were spearheading the drive towards Rome, together with Task Force Howze, an armoured group from 1st Armd. Div. detached for this purpose.

At 06.20 hrs on 4 June 1944 the first mixed element of Forcemen and tankers crossed the city limits of Rome, but shortly afterwards they were stalled by heavy enemy fire. It was 11.00 hrs before all eight of the Tiber bridges assigned to the FSSF were secure. Some companies had done a major part of their bleeding actually inside the walls of the 'open' city. The first Axis capital had fallen; but of the 1,500 Forceman who had jumped off from the Anzio canal line, more than 40% had become casualties.

fire was intense at first, but leading FSSF elements broke through, and by 10.00 hrs were digging in on their first objective — the railway line and canal bridge on Highway 7. But the 3rd Div. was blocked at Cisterna by stubborn defenders from the 956th Gren. Regt., and while artillery and mortar fire rained down on the town and its attackers and would-be relievers alike, German infantry and armour counter-attacked both flanks.

Most of the 39 dead suffered by the Force on 23 May were from the point battalion: with wounded and missing, these losses cut companies to platoon or even section strength. Nevertheless, the 725th Pz. Gren. Regt., which took the brunt of the

Force's punch, estimated its own losses at 40%.

The Force dropped back some 500 yards from the railway line, and night found them digging in opposite a narrow No Man's Land. By noon on the 24th elements of the 3rd Div. had pulled abreast; others, and 1st Armored Div., were running free in the Velletri gap; and resistance opposite the FSSF began to wilt as the German 715th Div. withdrew to avoid encirclement. The Force raced through the Lepini Hills to Artena.

Getting beyond Artena took more doing. Highway 6, the main line of retreat for the German X Army fleeing from the Cassino front, passed through the valley below. Enemy resistance was

RACE TO ROME

The Force mission in Operation 'Grasshopper' was to guard the right flank of the 3rd Division's drive to Cisterna; to take Mt. Arrestino; and to cut across the Lepini heights to Artena.

Small arms and artillery

THE FINAL BATTLE

After Rome, Gen. Frederick received his second star, and the command of 1st Airborne Task Force. The FSSF was also transferred to Seventh Army, and kicked off the invasion of southern France with their landings on the Hyeres Islands off Toulon on 15 August. Moving to the mainland, they joined the Task Force's pursuit of the Germans to the Italian border. There were rough times; but they were fewer and farther between than in the earlier campaigns. Veterans of more desperate fights called it 'the Champagne Campaign'. Only the forts at Sospel and Castillon had to be starved out.

The First Special Service Force was relieved from the line on 26 November 1944; and on 2 December it was disbanded.¹ The record had been written. In its short but hard-fought combat career it had earned the praise of many, from Fifth Army commander Gen. Mark Clark down; but the best compliment was probably the comment of an unnamed news correspondent: 'That outfit is crazier than hell . . .'

EQUIPMENT and CLOTHING

Some items of the Force's fighting equipment and combat uniform were as unique as the FSSF insignia. Other Army troops in Italy, encountering Forcemen for the first time, would ask, 'Jeez, where are you guys from?'

M1941 Johnson Light Machine Gun

This weapon, whose acquisition by the FSSF is explained in Part I, is illustrated and described in an accompanying photo and caption.

¹When the Force was disbanded, any member who wished to retain parachute jump status was transferred to an Airborne formation. The others, together with the 99th Norwegian Bn. and former members of the 1st, 3rd and 4th Ranger Bns., formed the 474th Infantry Regiment. Shoulder sleeve patches of the 99th Bn. and 474th Regt. are illustrated in Part I, p. 23. The 474th patch incorporated the Force's red spearhead, the Ranger scroll, and the Viking ship of the Norwegian battalion.

The Force Knife

The combat fighting knife of the FSSF was the V-42 Stiletto (or 'V-42 Commando'). Modelled after the British Fairbairn fighting knife, the V-42 was standardised with a steel 'skull-crusher' pommel. The grip is of leather washers forced over the tang and held tight by the pommel. The crossguard has a leather cushion, and the grip has fine V-grooves. The stiletto-type double-edged blade is double-hollow-ground, and approximately 7½ in. long; length may vary, as each blade was individually ground by hand. The blade, of hardened and tempered high-carbon steel, is often found today with the tip missing; many Forcemen used them to probe for mines, and broke them on rocks. There is a 'thumbprint' on the ricasso; and below this, next to the crossguard, is the name of the manufacturer — 'CASE'. All metal fittings are blued.

The V-42 was favoured by members of units other than the Force: photos exist showing it carried by men of the 504th and 509th Para. Inf. Regts. at Anzio. Nevertheless, the V-42 is now one of

the rarest of all US fighting knives.

The **scabbard** was procured for the FSSF from the manufacturers of the Marine Corps Stiletto. This latter weapon was not widely accepted, and the manufacturer had an excess of sheaths available. Since they fitted the V-42, and were of superior construction, they were secured for the Force.

The sheath is made of two pieces of tan leather sewn together, and reinforced down each edge with seven metal rivets. It has belt teeth at the throat, and a grommeted hole at the bottom for a leg thong. An M1910 belt hanger and leather straps sewn in with the press snaps secured the knife to the sheath and belt.

Parkas

The authors have found three types of parka which were issued to the FSSF. All were reversible to white for winter camouflage. Details are as follows:

The **first type parka** is mid-thigh length, a spacious garment of khaki or pale olive drab cotton poplin material which is windproof, but not

waterproof. It has open double patch pockets on the chest. It has drawstrings at the wrists and hood, and an enclosed neck. The hood is cut large enough to fit over the winter cap but under the helmet. A **liner** was issued with this parka to supplement its warmth. Of olive green synthetic wool material, it has an attached hood. It is without drawstrings or pockets, and is closed at the neck with a zipper and a buttoned overflap. A ruff of natural wolf fur edges the front of the hood.

The **second type parka** is of similar length and colour. It has buttoned flaps on the double patch chest pockets, which are much larger than on the first issue. It has buttoned flap closures at wrists and neck. A drawstring tightens the hood and the bottom edge. The hood is edged with a wolf fur ruff. Press-to-snap closures are attached to the rear of the hood to enable its size to be reduced if needed. There also exists an example with a zippered throat closure, which might or might not be a local modification or a manufacturer's variation.

The **third type parka** is knee length, of olive drab poplin (see colour contrast in accompanying photograph). It has open patch chest pockets of the same material, which are of the same size as on the first type parka. The neck is enclosed, and there are drawstrings at the wrists and hood. There is wolf fur edging on the hood opening and at the wrists. This third type was the most popular, and most widely used, among men of the Force.

Mountain Pants

These are made of heavy pale olive drab cotton duck

On a private altar in a house behind the Anzio beachhead, spring 1944, a Forceman has laid out his gear to be cleaned. On top of the altar (left to right) can be seen a mountain parka; a pistol belt with a V-42 fighting knife and an M1911A-1 .45 cal. pistol; binoculars, a canteen, four Thompson magazines and two grenades. The Thompson in the foreground has an interesting modification to the forestock — the addition of a second pistol grip. (Courtesy Fred Aaron)



Seven Forcemen photographed in southern France, 1944. All wear second or third type mountain parkas, and jeep caps — except for the man at top right, who has acquired a civilian Frenchman's beret! (Courtesy C. W. Adams)

Below:

An NCO (right), wearing a wool shirt with the Force patch and rank chevrons, photographed with a group of junior officers at Menton, France, 1944. They wear brown leather flight jackets, wool sweaters, wool trousers, officers' garrison caps with rank insignia, and a mixture of double-buckle combat boots and jump boots. One carries an M1943 field jacket. (Courtesy Arky Cameron)

material, and are not reversible to white. There is a large, pleated cargo pocket on the outside of each leg, closed with a two-button flap. The front slash pockets are closed with zippers (to keep snow and mud out); the rear hip pockets have single-button flaps. The front has a zippered fly, and two buttons on the waist band. The legs are tapered, and have elastic 'stirrups' to fit under the instep, so that the pants could be tucked easily and securely inside combat or ski boots. Suspenders were worn with the pants, to support the load which personnel carried in their side pockets. The cut of the pants is very similar, apart from the zippered pockets, to that of the M1942 parachute trousers.

M1943 Mountain Sleeping Bag

This was issued to the Force during training at Ft. William Henry Harrison, Helena, Montana in early 1943, and was standardised subsequently. It was designed and manufactured specifically for the FSSF, who at that time envisaged operations in the Norwegian winter.

The sleeping bag itself comes in two sizes (Regular and Large), and is made of pleated cotton insulated with natural fowl down. (Several examples examined still had tax stamps on the bag's paper tag stating that scarce wartime commodities — the down — were used in the manufacture of this item.)



The sleeping bag has a half-zipped opening with a breakaway feature; and can be laced into the outer case, thus forming a single unit of 'mummy' style, with strings to tighten it around the face. At the foot end of the bag are two sets of tapes to secure it when rolled up; these pass through two slits at the foot of the bag case.

The sleeping bag case is of water-resistant olive drab cotton, and ties to the sleeping bag by means of grommets in the latter. A snap-fastened flap covers the

zippered and laced area of the sleeping bag.

The cover bag is of rubberised cloth with a tie string at the open end. Olive drab and olive green examples are known, depending upon the year of manufacture.

Mountain Rucksack

The mountain rucksack used by the FSSF was standard Quartermaster issue. It is made of heavy olive drab cotton material, the main compartment being large enough to hold two to three days' worth of personal gear for

sustained mountain operations. Three smaller exterior compartments were used for stowing extra ammunition, dry socks, etc. These smaller compartments are made of the same material as the body, with flaps, leather straps, and steel buckles. The large flap on the top of the main compartment is fastened by means of leather (or webbing) straps and steel buckles; it has a zippered pocket on its underside, for maps, etc. On the sides of the main compartment are grommets canvas flaps and straps, for securing additional long items such as entrenching tools, machetes, etc.

The rucksack has a tubular metal frame; on the right side of the frame a wire clip was provided for securing a piton hammer, pitons and carabiners. There are webbing shoulder straps, and a webbing waist belt. [MI]

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An International Selection

Sir Colin Campbell

'VOLUNTEER'
Painting by BRYAN FOSTEN

Of all the heroes of the Victorian military pantheon, Sir Colin Campbell occupies a special place: proof that a man of humble birth could rise through merit.

Born in Glasgow on 20 October 1792, the son of a carpenter named John Mac-liver, he adopted the name Campbell in compliment to his maternal uncle, Col. John Campbell, who put him through Glasgow high school, and who procured him an ensigncy in the 9th Foot when he was only 16. Colin Campbell demonstrated exceptional bravery and leadership in the Peninsular War, fighting at Vimiera; during the retreat to and battle of Corunna; and later (after serving in 1809 at Walcheren, where he contracted the fever which was to trouble him throughout his life) at Barossa, Tarifa and Vittoria. At San Sebastian he left the bed where he was recovering from a double wound to lead a storming party, and was wounded once more. Another wound at the passage of the Bidassoa finally sent him home, rewarded with a captaincy without purchase, and a wound pension of £100 per annum.

Promotion came slowly after the Napoleonic Wars to those without means or influence. Campbell devoted himself to an earnest study of his profession, and saw much foreign service. He had served in America in 1814; and in 1823 took part in quelling the insurrection in Demerara (Guyana). He only achieved promotion by the financial help of friends: to

major in 1825, and lieutenant-colonel of the 98th Foot in 1835. With that regiment he distinguished himself in the Chinese War of 1842. As commander of the 3rd Division under Lord Gough in the Sikh War, 1848-49, he contributed to British victory at Chillianwallah (where he was again wounded) and Gujrat; his 'steady coolness and military precision' were praised in official despatches. Appointed Knight Commander of the Bath, and especially named in the thanks of Parliament, Sir Colin returned home in 1853, becoming colonel of the 67th Foot in 1854.

Campbell accepted com-

mand, as a major-general, of the Highland Brigade for the Crimean War. He was superbly fitted for this position, due to his understanding of and affection for Scottish troops — an affection returned by his Highlanders. (His understanding of them is shown in one phrase of his exhortation before his brigade stormed the heights of Alma, when any man who disobeyed orders and fell out to help the wounded was threatened that his name 'shall be stuck up in his parish church' — a disgrace which any Highlander would feel more keenly than any military punishment.)

Following the Highland Brigade's great distinction at the Alma and as the 'thin red line' at Balaklava, Sir Colin was elevated to GCB.

Campbell's wide experience led to his being offered the command against the Indian Mutiny in July 1857. Asked when he could set out, he replied, 'Within 24 hours', and was as good as his word. Reaching Calcutta on 13 August, after Delhi and

Cawnpore had already been recovered, he directed the remaining operations. He did not start for the front until 27 October, after typically careful, professional preparations, which many thought over-cautious. His thoroughness — at odds with the feverish mood of civilians and subordinates alike — earned him the unjust nickname 'Sir Crawling Camel'. (One of his officers thought his deliberate approach surprising in a man of his quick, lively movements, high complexion and crisp grey hair, which gave a dashing impression.)

Sir Colin relieved Lucknow on 17 November and withdrew the garrison, leaving the town to be recaptured in March 1858. He continued in command of operations in Oudh until the revolt was quelled, receiving his peerage as Baron Clyde in 1858. Worn out, he returned home to a hero's welcome, the thanks of Parliament and a pension of £2,000 p.a. in 1859. He died on 14 August 1863.

Though not a great general, Campbell was a careful leader, revered by his men. The Mutiny, his only truly independent command, demonstrated the aspects of his character for which he was renowned: his 'courteous demeanour and manly independence of character' which won him 'unvarying respect' — but punctuated by the occasional wild and incoherent burst of rage. He was pronounced by officers to be 'a very nice old fellow indeed . . . just the man to do the thing properly'; and 'a tough old buck'. But when faced by stubbornness or stupidity he could give way to fury, ' . . . contorted with anger . . . his face blazing and his frame quivering . . . [He] began a sort of war dance . . . shaking his fist and screaming at the top of his voice . . .'

For a Victorian general he was surprisingly frank with W. H. Russell, the renowned *Times* correspondent: 'Now, Mr. Russell, I'll be candid with you. We shall make a compact. You shall know everything that is going on.



A portrait of Campbell in his Crimean uniform: engraving by T. W. Hunt. (Haythornthwaite collection)



You shall see all my reports, and get every information that I have myself, on the condition that you do not mention it in camp, or let it be known in any way, except in your letter to England.'

Like Napoleon, his memory for faces made him a legend in the ranks. At the storming of the Sikander Bagh at Lucknow, Sgt. Joe Lee of the 53rd called to him to allow them to charge. Not only did Campbell reply by name, but by Lee's nickname

of 'Dobbin' — a familiarity which in those days would make an indelible impression.

His affection for the Highlanders nevertheless aroused justified criticism on the grounds of favouritism.

Reviewing his army en route for Lucknow, he spoke only a few words to each regiment until he came to the 93rd; when they cheered him his 'worn and haggard expression' became a smile, and he gave them a stirring speech: 'Keep well together and use

the bayonet . . . 93rd! You are my own lads — I rely on you to do the work!'

At the Sikander Bagh, after he had been hit by a spent ball which had already passed through the body of a gunner, he shouted repeatedly: 'Lie down, 93rd, lie down! Every man of you is worth his weight in gold today!' After the failure of the first assault he turned to Col. Ewart of the 93rd and said: 'Bring on the tartan! Let my own lads at them!' The Highlanders stormed inside, and butchered every sepoy in sight; Ewart shot six with his revolver, and a famously taciturn 'gentleman ranker', 'Quaker' Wallace, is said to have bayoneted 20 while chanting the 116th psalm ('I will pay my vows unto the Lord . . .') Nine officers and 90 men of the 93rd were killed or wounded in this fight, but when it was over, no fewer than 1,857 dead rebels were dragged out.

(The occasion provoked another of Sir Colin's instant rages, however, when the gallant Ewart, wounded and covered in blood and powder, ran back to Campbell to present him with a rebel flag which he had captured in person: 'Damn your Colours, Sir! It's not your place to be taking Colours! Go back to your regiment this instant, Sir!')

Other than his unwise demonstrations of partiality, however, few other criticisms can be made of Campbell's conduct of the Mutiny campaign. If he was cautious, it was a situation which demanded a proper caution; and there was nothing timid about his command in battle. He had a reputation for fairness, and for keeping his word, which extended even to the enemy at a moment in history when many of his countrymen threw off all civilised restraint. [M]

Sources:

The basic facts of Campbell's career are covered in *Life of Colin Campbell, Lord Clyde* (L. Shadwell, 1881); the Indian Mutiny campaign is covered excellently in *The Great Mutiny* (C. Hibbert, London, 1978).

Left:

Campbell on campaign during the Indian Mutiny, drawn by Henry Hope Crealock; in this study he wears regulation striped trousers. Note short rear vents in the jacket skirts; and slung spy-glass. (Copyright reserved. Reproduced by gracious permission of Her Majesty The Queen)

Below left:

Campbell during the Indian Mutiny, photographed (with his chief of staff, Sir William Rose Mansfield — omitted here) by Felice Beato. (National Army Museum)

Back cover:

Bryan Fosten's paintings reconstruct Sir Colin's appearance in his two most famous campaigns.

As a major-general commanding the Highland Brigade in the Crimea he wore — according to a contemporary photograph — this plain, civilian-style overcoat with a turned down collar. It probably had a single long central vent at the rear, extending to the waist, and two rear buttons set close together each side of and just above the end of the vent. The regulation black beaver bicorne hat has gold bullion and crimson silk ornaments in the corners; a black silk cockade, and a 7½-in. gold lace loop on the right side; and drooping swan feather plumes of white over red. The crimson and gold silk net sash was not described precisely in official Dress Regulations, some appearing as gold with crimson longitudinal stripes; though the mixed pattern illustrated is taken from a contemporary item. The trousers are the official 'Oxford mixture' (appearing black at any distance), with a 2½-in. scarlet stripe. It appears that when on active service Campbell continued to carry his Peninsular War sabre, similar to the 1796 light cavalry pattern, in a plain steel scabbard suspended from a belt worn under the coat.

As a lieutenant-general (with 'local rank of General in the East Indies'), we show him in the costume depicted in several illustrations of the Indian Mutiny era. The tropical helmet of 'Roman' pattern has a cloth paggri, and a ventilator in the comb. The patrol jacket has fairly restrained black frogging; and Crealock's drawing indicates two short rear vents behind the hips. It is worn with loose white trousers. Though Beato's photograph and the Crealock drawing show the sword belt worn under the jacket, Sir Francis Grant's portrait of Campbell's Indian Mutiny uniform shows a shoulder belt worn over the jacket — and, incidentally, high-topped riding boots worn over the trousers. Crealock shows the small spy-glass slung in a leather case. There is some suggestion from eye-witness accounts that his features aged noticeably between 1854 and 1857.

Sir Colin Campbell

Major-General, Crimea, 1854



Lientenant-General, India, 1857